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A MONTHLY JOURNAL DEVOTED TO THE ELEVATOR AND GRAIN INTERESTS.

PUBLISHED BY
MITCHELL BROS. COMPANY,
(INCORPORATED.)

VOL. IX.

CHICAGO, ILLINOIS, JUNE 15, 1891.

No. 12.

SUBSCRIPTION PRICE,
ONE DOLLAR PER ANNUM

ESTABLISHED 1856.

EUREKA

WAREHOUSE,
DOUBLE RECEIVING,
SINGLE RECEIVING,

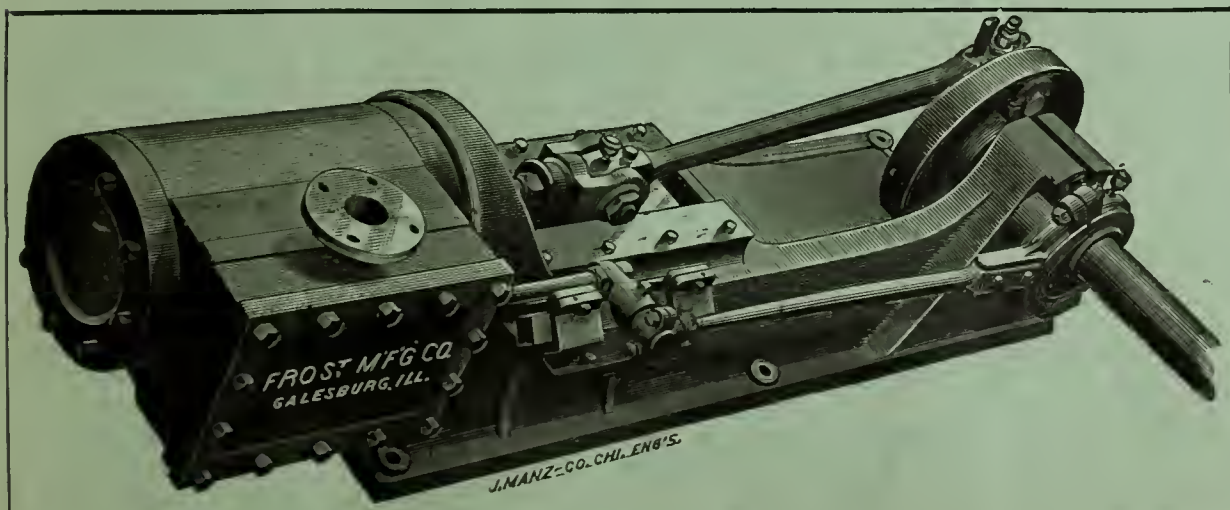
SEPARATORS

Are in every feature
the best and most per-
fectly operating ma-
chines in the world.

More of them are in
use, more of them are
built and more of them
are sold every year
than of any other two
kinds in the world.

S. HOWES, SOLE MANUFACTURER. Silver Creek, N. Y.

CONVEYORS	+ + + Elevator Buckets. + + Elevator Boots. + + Elevator Bolts. + + +			BELTING
	 THORNBURGH & GLESSNER MILL AND ELEVATOR SUPPLIES 110 & 112 SOUTH JEFFERSON STREET, CHICAGO, ILL. Elevating and Conveying Machinery a Specialty.			
	+ + + + PULLEYS. + + + + SHAFTING. + + + + HANGERS. + + + +			



FOR PRICES AND DISCOUNTS
— ON —
Elevator Machinery
AND SUPPLIES
— OF —
EVERY DESCRIPTION,
ADDRESS EITHER STEAM OR HORSE-POWER,
The FROST MFG. CO.,
GALESBURG, ILL.

THE EXCELSIOR DUSTLESS MACHINERY

WATKINS & CO., COMMISSION GRAIN,
Chamber of Commerce.

PEORIA, ILL., June 14, 1891.

GENTLEMEN:—We have clipped to this date something like 500 carloads of oats with the No. 6 "Excelsior" Combined Clipper and Polisher we bought of you at an expense of only a very few dollars for repairs to replace clipping wallowers. The machine has always been entirely satisfactory to us. We have never had a car of oats go off grade through any fault of the machine. We are buying a great many oats clipped by the Clipper and selling to same parties as those from your Clipper, and their oats have frequent claims made back on us.

Yours truly, WATKINS & CO.

BELLEVUE, IOWA, April 17, 1891.

GENTS:—Since purchasing our No. 5 Excelsior Combined Oat Clipper and Polisher of you in March, 1889, we have clipped and cleaned 150,000 bushels of oats, the loss in clipping averaging 6-10 of a pound per bushel, and we have always got the highest price for No. 2 grade oats, while we make no distinction as to quality in our purchasing, but all going to the same bin. This we consider one of the great advantages of a good Oat Clipper. We have always been well pleased with the machine. Repairs just purchased of you, amounting to \$15.00, is all we have had to pay.

Yours truly, REILING & CO.

HOLSTEIN, IOWA, April 10, 1891.

E. H. PEASE MFG. CO., Racine, Wis.

GENTLEMEN:—In regard to the No. 6 Excelsior Oat Clipper and Polisher, and Separator, I purchased of you last fall, I wish to say that it is highly satisfactory and surpasses my best expectations. I have polished about 150,000 bushels of barley with it, and it does this work very evenly and does not break nor hull the grain. I am now running it on oats that test 28 pounds to the bushel and raise them up to 33 and 34 pounds with a shrinkage of not more than 3 ounces to the bushel.

I hesitated some before buying, but now that I know what it will do, I would not be without it for many times its value. Yours respectfully,

Signed, F. S. MANSON.

CHICAGO, ILL., Feb. 24, 1891.

DEAR SIR:

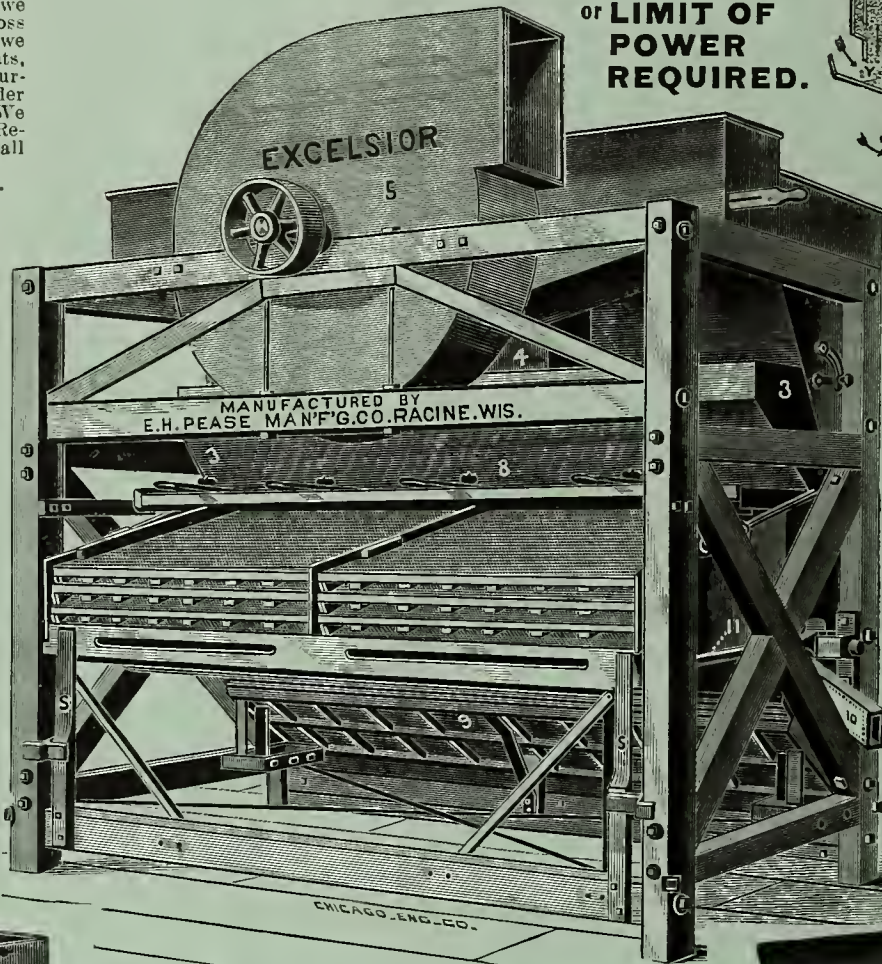
The two No. 8 Excelsior Jr. Oat Clippers we bought of you in June, 1890, are giving splendid satisfaction. We experience no difficulty in raising the weight of oats from 8 to 10 lbs. to the measured bushel. On the 12th inst we run through the two machines a large lot of very foul No. 3 white oats, testing 27 lbs. to the measured bushel, and raised them to a fine bright quality of No. 2 oats, testing 37 lbs.; shrinkage 500 lbs. to 1,000 bushels. The shrinkage being largely "Hulls," and being separated from the dust can be utilized in making ground feed.

On the 18th inst. we run 4 500 bushels of oats through in 3 hours, and raised them from No. 3 white, testing 29 lbs.; to No. 2, testing 38 lbs. Yours truly,

COLUMBIA ELEVATOR CO.,

J. E. CAILEY, Sec'y.

HAS NO SUPERIOR IN POINTS OF
CONSTRUCTION,
DURABILITY,
EXCELLENCE OF WORK,
STILLNESS OF RUNNING,
or LIMIT OF
POWER
REQUIRED.



"Excelsior" Dustless Elevator Separator.

FOR ALL KINDS OF
GRAIN OR SEEDS.

MADE IN 4 SIZES.

CAPACITIES, FROM 300 TO 2,000 BUSHEL PER HOUR.

HAS LARGE SIEVE SURFACE, POWERFUL
FAN AND PERFECT VENTILATION.

GRAIN SHOE IS COUNTER-BALANCED BY
COUNTER-BALANCE SPRINGS

THE SMOOTHEST

—AND—

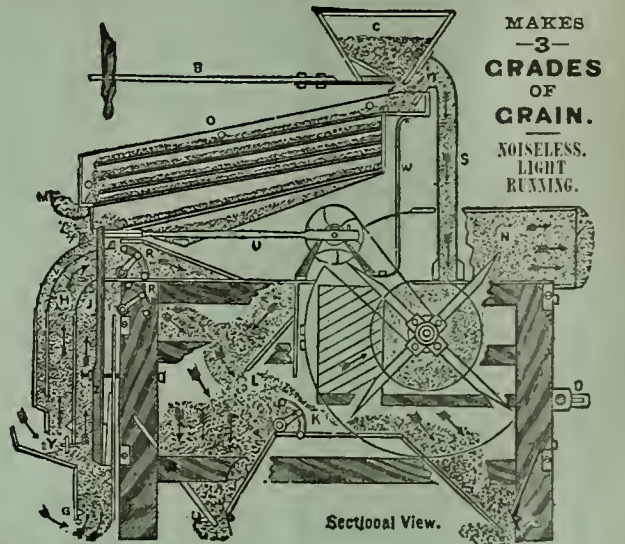
LIGHTEST RUNNING SEPARATOR
IN THE MARKET.

"ELEVATOR B."

LA CROSSE, WIS., Nov. 6, 1890.

GENTLEMEN:—Have just made a Test Run of Flax over the No. 2 Excelsior Receiver Separator of 775 bushels per hour without crowding. Of course, when flax is very dirty it would require more attention or slower feed. We are very much pleased with the machine on flax and timothy. It adds one-half to the capacity of our flax reels and of our timothy mills.

Yours respectfully, W. B. CLISBY,
Foreman for W. W. CARGILL & Bro.



"Excelsior" Dustless Separator and Grader.

—FOR—

SEPARATING, CLEANING AND GRADING
WHEAT FOR MILLING.

OR ANY KIND OF GRAIN FOR
MERCHANTABLE PURPOSES.

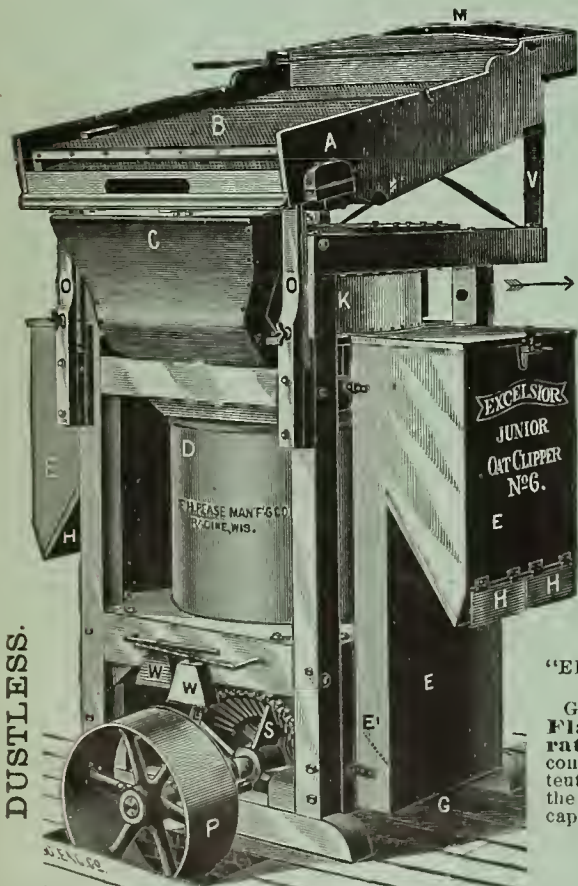
MADE IN 4 SIZES.

CAPACITIES, 150 TO 800 BUSHEL PER HOUR.

CEDAR RAPIDS, IA., Dec. 19, 1890.

GENTS:—The No. 8 EXCELSIOR OAT CLIPPER, SEPARATOR, GRADER, AND POLISHER COMBINED, bought of you in January, 1890, is still doing business at the old stand and giving as good satisfaction as ever. We are now using it to polish barley and is giving good satisfaction.

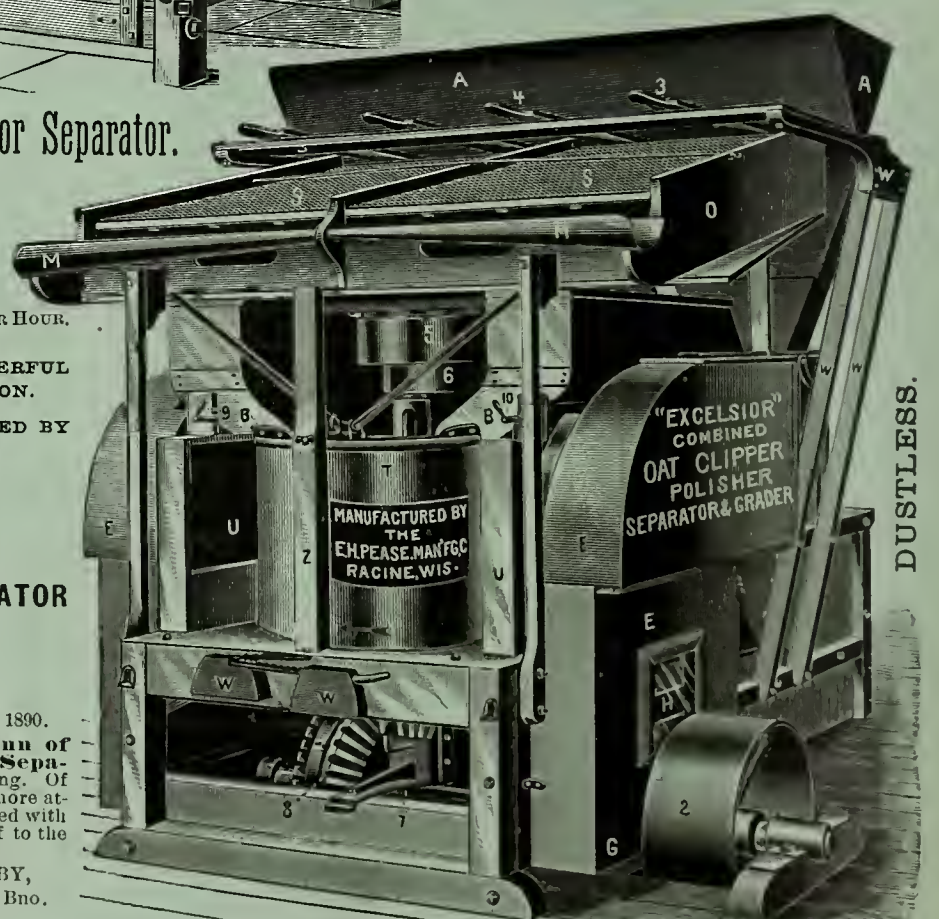
Yours truly,
MINER & MORGAN.



"EXCELSIOR, JR." OAT CLIPPER, POLISHER and SEPARATOR
FOR CLIPPING, POLISHING, SEPARATING AND
CLEANING OATS,

OR MAY BE FURNISHED WITH SIEVING, ETC.,
FOR POLISHING, CLEANING, SEPARATING AND
GRADING WHEAT OR BARLEY.

MADE IN 2 SIZES. CAPACITIES, 250 TO 600 BUSHEL PER HOUR.



"EXCELSIOR" OAT CLIPPER, SEPARATOR AND GRADER COMBINED;
ALSO POLISHER, SEPARATOR AND GRADER COMBINED.

THIS "COMBINED" MACHINE May be fitted to fill any or all the capacities of a GENERAL DUST-LESS ELEVATOR RECEIVING SEPARATOR for all kinds of Grain;
OR AS A CLIPPER, CLEANER, POLISHER, SEPARATOR and GRADER OF OATS.
OR AS A POLISHER, SEPARATOR, CLEANER and GRADER of Wheat and Barley.

MADE IN 3 SIZES, WITH CAPACITIES FROM 150 TO 750 BUSHEL PER HOUR.

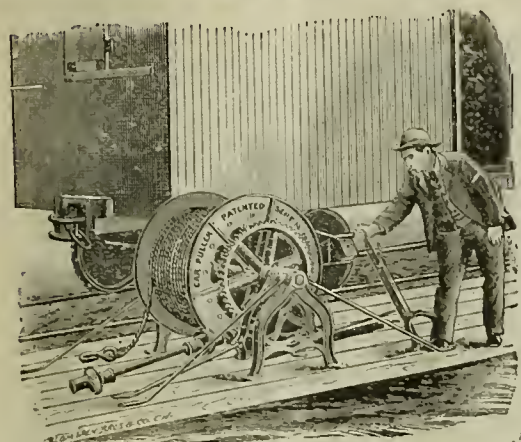
SEND FOR
CATALOGUE
AND
PRICES

—TO—

E. H. PEASE MFG. CO., RACINE, WIS., U. S. A.

SEE PAGES 321, 322 and 323.

POWER CAR PULLERS

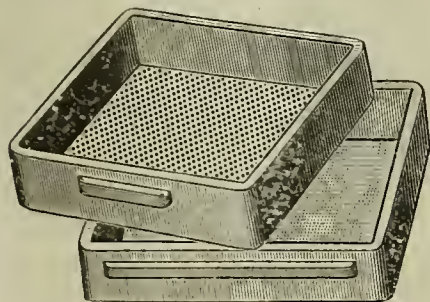


THE W. G. ADAMS POWER CAR PULLER.

COMPACT, STRONG, CHEAP.

Can be set at any angle with Driving Shaft or Rail Road Track.

HANDLES From 1 to 3 loaded cars at once, according to the conditions of the track.



GRAIN AND SEED TESTER.

The upper box fits into the lower one. The zinc or wire cloth, as the case may be, are of different perforations, or meshes, according to the work required to do. When ordering, simply state what the Testers are to be used for, whether for grain or for fine seeds, and what kind, as separate Testers are required for each. A Tester includes a pair (both sieves).

FOR HANDLING CARS

—AT—

**FACTORIES,
COAL MINES,
WAREHOUSES,
GRAIN ELEVATORS,
MILLS,
MALT HOUSES,
BREWERIES**

—AND—

DISTILLERIES,

Or wherever necessary to move cars without a Switch Engine. Can be set at any angle with Railroad Track.

We are Makers and Jobbers of all kinds of

MACHINERY and SUPPLIES

—FOR—

GRAIN ELEVATORS and MILLS

SUCH AS

SHAFTING, PULLEYS, HANGERS,
PILLOW-BLOCKS, CLUTCHES, COUPLINGS,
GEARS, SPROCKETS, SET COLLARS,
TAKE-UP BOXES, CRANE-SPOUTS,
LEATHER, RUBBER, COTTON AND LINK BELTING,
"FLEXIBLE" AND "SWIVEL" GRAIN SPOUTS,
ELEVATOR BOOTS, BUCKETS AND BOLTS,
"SPIRAL" AND "BELT" CONVEYORS,
"PLATFORM," "DUMP" AND "HOPPER" SCALES,
GRAIN SCOOPS, AND POWER GRAIN SHOVELS,

—ALL SIZES OF—

Farm and Warehouse Fanning Mills,

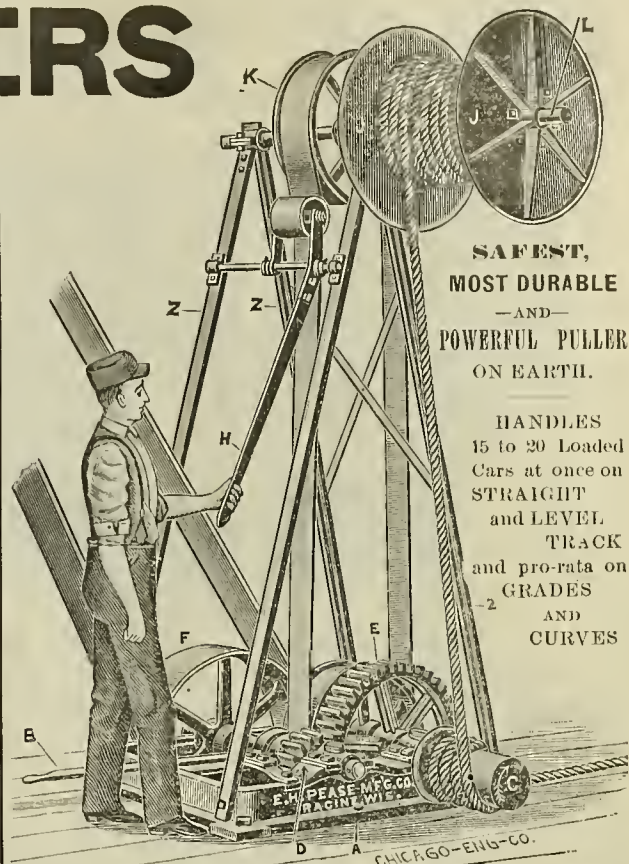
GRAIN TESTERS, SEED TESTERS,
PERFORATED METALS, WIRE CLOTH,

Power Car Pullers, Oat Clippers, Dustless Receiving Separators,

POLISHERS, SEPARATORS, GRADERS,
FLAX REELS AND SPECIAL FLAX MILLS,

"OVERHEAD," "SWEEP" AND "TREAD" HORSE POWERS,
BAG-TRUCKS, SIX-WHEEL WAREHOUSE TRUCKS.

—AND—



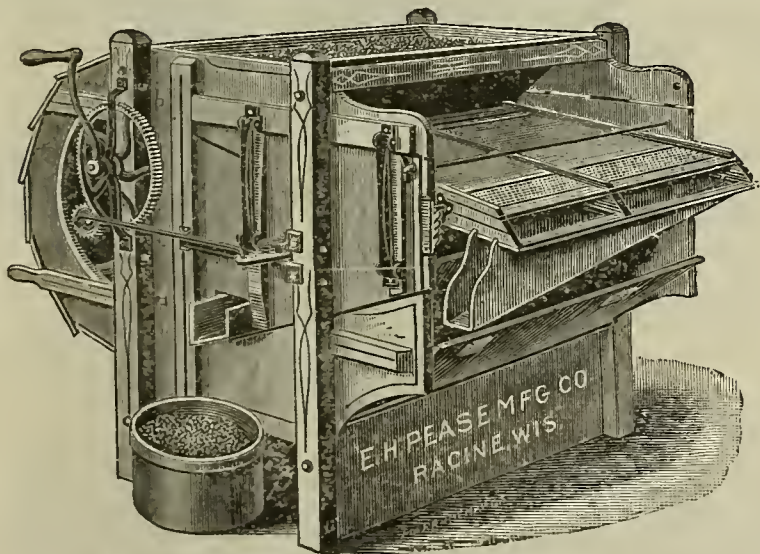
**SAFEST,
MOST DURABLE
—AND—
POWERFUL PULLER
ON EARTH.**

HANDLES
15 to 20 Loaded
Cars at once on
STRAIGHT
and LEVEL
TRACK
and pro-rata on
GRADES
AND
CURVES

"HERCULES" POWER CAR PULLER.
FOR HEAVY WORK. IN USE BY

Columbia El. Co. Chicago—1 machine.
Wright & Hill, Linseed Oil Works. Chicago—1 machine.
J. A. McLennan, (El. Contr' & Builder) Chicago—11 machines.
W. L. Luce's Elevator. So. Elmhurst, Ill.—1 machine.
H. Mueller & Co. Chicago—1 machine.
Soo Ry Co.'s El. Gladstone, Mich.—1 machine.
P. & W. Ry Co.'s El. Painesville, Ohio—2 machines.
A. T. & S. F. Ry Co.'s El. Kansas City, Mo.—2 machines.
Barnett & Record, El. Contr' & Builders } Minneapolis, Minn.—10 machines.
Watrous Engine Works. Winnipeg, Man.—1 machine.
C. A. Pillsbury & Co. Minneapolis, Minn.—1 machine.
Interior El. Co. Minneapolis, Minn.—2 machines.
City El. Co. Minneapolis, Minn.—1 machine.
St. Anthony El. Co. Minneapolis, Minn.—2 machines.
S. S. Cargill's El. Minneapolis, Minn.—1 machine.
D. A. Martin's El. Minneapolis, Minn.—1 machine.
Millington W. Sand Co. Millington, Ill.—1 machine.
Hogan & Neilson. Seneca, Ill.—1 machine.
—AND MANY OTHERS.

SPECIAL FLAX CLEANING MACHINERY.



THE "PEASE" SPECIAL FLAX MILL.

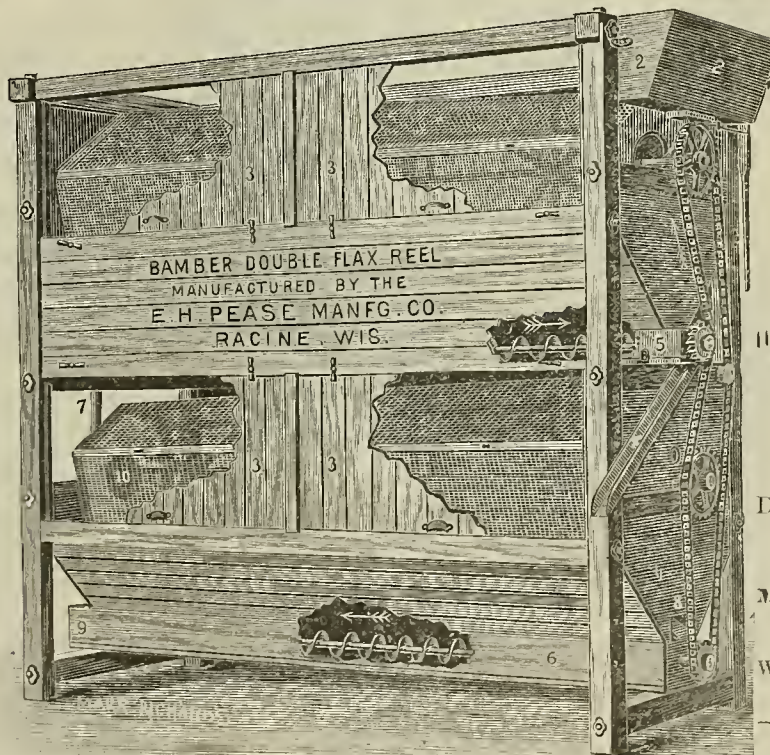
FOR HAND USE OR POWER.

This Mill is represented with a Grain Hurdle in the Shoe, to show that although especially adapted to Flax-Seed Cleaning, it can also be used for all kinds of Grain, making it a universal mill, calculated for all kinds of work. This mill is built upon the same principle as our Side Shake Warehouse Mills, but with more depth of the shoe, in order to accommodate deeper Sieves and a flax screen extending to the extreme front of the mill, a length of four feet. It consequently has greater capacity than any ordinary mill in existence. No flax hurdles are used, as separate sieves work better on flaxseed, and afford opportunities for changing the combinations for different classes of work. This mill is equally well adapted to cleaning, separating and screening Timothy, Clover, and other fine seeds.

NOTE—The No. 0 and No. 00 machines are not fitted to run by hand power.

	No. 2.	No. 1.	No. 0.	No. 00.
Extreme Height.	3 ft. 8 in.	3 ft. 8 in.	3 ft. 8 in.	3 ft. 8 in.
Size over all ...	5 ft. 7 in. x 4 ft.	5 ft. 7 in. x 4 ft.	5 ft. 7 in. x 5 ft.	5 ft. 7 in. x 6 ft.
Flt. cen. of pulley	27 in.	27 in.	27 in.	27 in.
Driving pulleys..	6 in. x 2 in.	6 in. x 2 in.	6 in. x 3 in.	6 in. x 3 in.
Rev. per minute.	275	275	25	275
Size of Sieves...	3 ft. 2 in. x 33 in.	4 ft. x 33 in.	5 ft. x 33 in.	6 ft. x 33 in.
Depth of Screw.	4 ft.	4 ft.	4 ft.	4 ft.
Capacity per h'r.	25 to 35 bn.	35 to 45 bn.	45 to 60 bn.	60 to 75 bn.

STRAIGHT OR TAPERED
HAND REELS OF ANY DIMENSIONS
DESIRED, MADE TO ORDER.



**MADE
WITH
ONE,
TWO or
FOUR
REELS**

**IN A
CHEST
AND**

**with or without
"SCALPING-SHOE"**

**REELS
OF ANY
DESIRED STYLE
OR
DIMENSIONS
MADE TO ORDER**

**WRITE FOR
PARTICULARS.**

Two feet of capacity length for each lineal foot of machine.

Tapered, Hexagon Reels, Revolving on Horizontal Shafts.

All Sprocket Wheels and Drive Chain run perpendicular and Parallel with each other.

The lightest running, best made, most durable reels in the market.

—MACHINES RECENTLY SOLD TO—

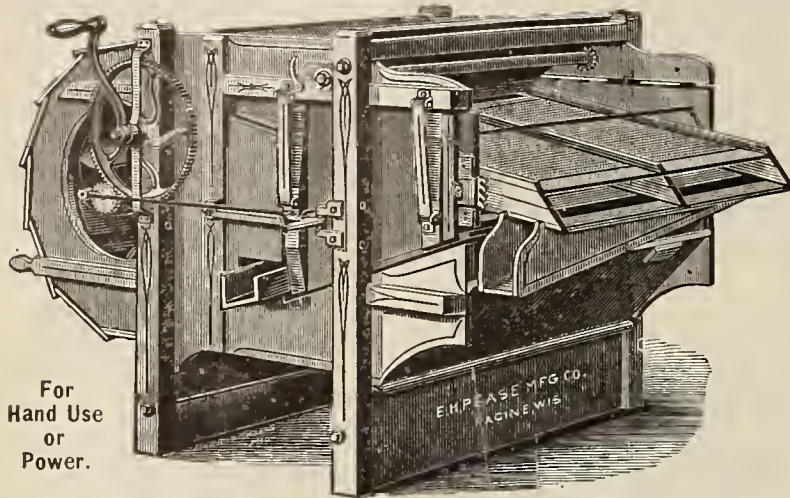
The Albert Dickinson Seed Co. Chicago.
W. C. Luce. So. Elmhurst, Ill. (4 machines.)
Cargill Bros. La Crosse, Wis.
Inter-State Grain Co. Oelwein, Ia.
McMichael & Son. McGregor, Ia.
J. C. Sanborn & Son. Ortonville, Minn.
Boor & Benjamin. Ashton, Ia.
Clark Bros. Manson, Ia.
D. C. Fairbanks. Dodge Center, Minn.
Clausen Bros. Cedar Lake, Ia.

AND MANY OTHERS.

E. H. PEASE MFG. CO., RACINE, WIS., U. S. A.

SEE PAGES 322, 323 AND SECOND COVER PAGE.

PEASE WAREHOUSE FANNING MILLS.



The "Pease" Side Shake Mills.

The Cut shows the "Right," or Crank side. On the opposite side are tight and loose Pulleys. These mills are not only a first-class mill for general work but are also specially adapted for all kinds of seed cleaning as is attested by the following unsolicited letter, which we publish by permission:

St. Charles, Minn., April 12, 1890.

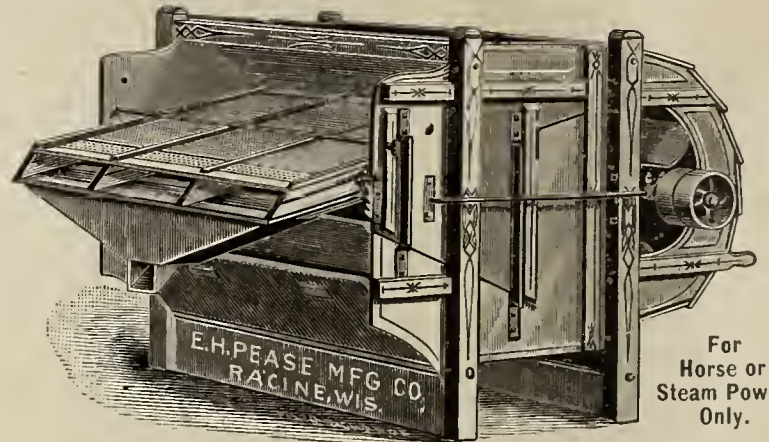
E. H. PEASE MFG. CO., Racine, Wis.:
Gentlemen:—We have started the No. 2 Mill which we bought from you a short time ago. We find it to be the best Timothy Cleaner we ever saw. It cleans very fast and does fine work. It is far ahead of the — mill for cleaning timothy. We also use a — mill but it does not come up with the No. 2 side shake we bought of you. Your No. 2 will clean timothy about three times as fast as the — mill does and does better work than the — does. Your mill is well built and strong. We would not give our No. 2 "Pease" Side Shake for any two — that we ever saw.

Very truly,
J. B. ZECHES & CO.

NOTE—The No. 0 machine is not fitted to run by hand power.

	No. 3.	No. 2.	No. 1.	No. 0.
Extreme Height.....	3 ft. 6 in.	3 ft. 6 in.	3 ft. 6 in.	3 ft. 6 in.
Size over all.....	5 ft 2 in x 3 ft 4 in	5 ft. 2 in. x 4 ft.	5 ft 2 in x 4 ft 9 in	5 ft 2 in x 5 ft 9 in
Floor to center of pulley..	25½ in.	23½ in.	23½ in.	25½ in.
Driving pulleys.....	6 in. x 2 in.	6 in. x 2 in.	6 in. x 2 in.	6 in. x 3 in.
Revolutions per minute	275	275	275	275
Size of hurdles.....	2 ft. 6 in. x 24 in.	3 ft. 2 in. x 24 in.	4 ft. x 24 in.	5 ft. x 24 in.
Capacity per hour.....	100 to 200 bu.	125 to 2-0 bu.	175 to 350 bu.	250 to 450 bu.

HAVE
THE
LARGEST
SALES
OF
ANY
MADE
IN
THE
UNITED
STATES



The "Pease" End Shake Mills.

Particularly adapted for use in Horse Power Elevators where power is limited and close cleaning and grading desired. It is strong, durable and noiseless.

The shoe is supported by STEEL springs, hung from above and vibrated by flexible shake-rods with ADJUSTABLE ECCENTRICS. The shake is from front to back, instead of from side to side.

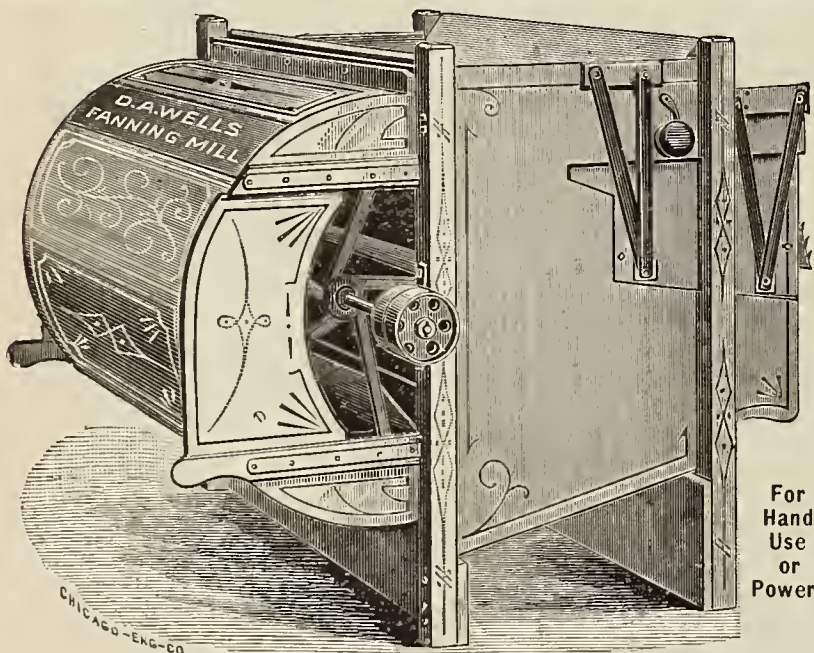
They are fitted with a patent adjustable hopper raiser, not shown in cut, which gives an even flow of grain upon the sieves.

These Mills have MUCH GREATER CAPACITY than any other kind of equal sizes. They are especially adapted for cleaning ALL KINDS OF GRAIN. The side shake Mills are better adapted for cleaning Clover, Timothy, Flax, etc.

NOTE—The pulleys are placed on the RIGHT side of mills or opposite to those showing in this cut, unless otherwise ordered.

	No. 3.	No. 2.	No. 1.	No. 0.	No. 00.
Extreme Height.....	3 ft. 6 in.	3 ft. 6 in.	3 ft. 6 in.	3 ft. 6 in.	3 ft. 6 in.
Size over all.....	5 ft. 9 in. x 3 ft. 3 in.	5 ft. 9 in. x 3 ft. 11 in.	5 ft. 9 in. x 4 ft. 8 in.	5 ft. 9 in. x 5 ft. 8 in.	5 ft. 9 in. x 6 ft. 8 in.
Floor to center of pulley..	25½ in.	23½ in.	25½ in.	23½ in.	25½ in.
Driving pulleys.....	6 in. x 2 in.	6 in. x 2 in.	6 in. x 2 in.	6 in. x 3 in.	6 in. x 3 in.
Revolutions per minute....	450	450	450	450	450
Size of hurdle.....	2 ft. 6 in. x 30 in.	3 ft. 2 in. x 30 in.	4 ft. x 30 in.	5 ft. x 30 in.	6 ft. x 30 in.
Capacity per hour.....	125 to 250 bu.	150 to 300 bu.	200 to 400 bu.	250 to 500 bu.	300 to 600 bu.

THESE MACHINES CAN BE FURNISHED WITH SPECIAL SIEVING TO HANDLE ANY KIND OF GRAIN OR SEEDS.



The "D. A. Wells" Warehouse Fanning Mill.

Designed for locations where power is limited and rapid cleaning is more of an object than close grading.

They have a much larger capacity than our "Pease" Warehouse Mills, but having a larger fan, do not require as high a motion and consequently require less power.

These mills are famous as corn and oat cleaners, where plain elevator work is required, and to be done rapidly.

The sieves are so arranged that they may be put in place or taken out independently, thus enabling the operator to quickly arrange any combination that may be required for the various kinds or conditions of grain to be cleaned.

Extreme height.	Size over all.	Floor to center of pulley.	Driving pulleys.	Rev. per minute.	Size of sieves.	Capacity per hour on corn or oats.	Weight.
4 ft. 1 in.	5 ft 6 in x 2 ft. 3 in.	6 in x 2 in	140	57 in. x 26 in.	800 to 1,000 bu	425 lbs.	

Office of
WM. DEACON.
E. H. PEASE MFG. CO., Racine, Wis.:

Gentlemen:—Replying to yours of recent date, in which you inquire whether my old "D. W. Wells" Fanning Mill is not about worn out and if I will not require another one this season, would say:—The small piece of casting I ordered from you a few days ago to repair same, has put my mill in perfect order, with no reason in sight why it will not be running at the end of time and doing perfect work. This machine was in the Elevator when I took possession THREE years ago, and I am reliably informed has been in almost constant use here for FIFTEEN years previous to that time.

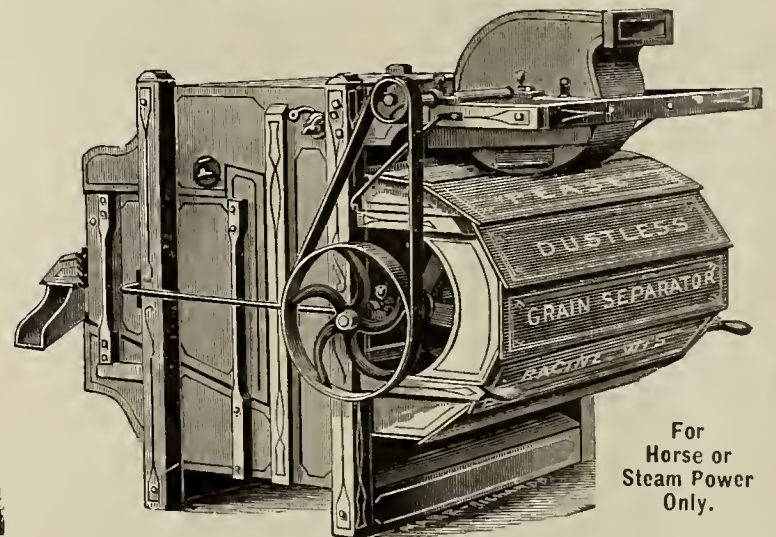
Very truly yours,
WM. DEACON.

GRAIN AND SEEDS,
SANDWICH, ILL., May 23, 1890.

WE
ARE
HEADQUARTERS
FOR
ALL KINDS
OF
MOTIVE POWER
MACHINERY,
FITTINGS,
SUPPLIES AND
REPAIRS
FOR
GRAIN
ELEVATORS
AND
MILLS.

—O—
SEND FOR
GENERAL
CATALOGUE
AND PRICES
—TO—

The "Pease" Dustless Separators.



CHICAGO, ILL., April 8, 1891.

GENTLEMEN:—The "Pease" Dustless Separator I bought of you March 26 1891, I sold to Wittman & Co., 66 and 68 N. Halsted St. The No. 00 Machine I bought of you January 19, 1891, I sold to F. Grimsell, 89 W. Erie St., and one I bought of you some time ago I sold to Keifer Bros., North Ave. and Halsted St. These and several others of these "Pease" Dustless Separators I have bought of you are being used chiefly for cleaning corn and oats, and any of them will clean as fast as 8x5-inch buckets, placed 12 inches apart and running at the usual speed, can elevate.

All the machines are giving good satisfaction.

Yours, etc,
R. D. MILDRETH, Millwright,
53 and 55 So. Jefferson St.

SPIRIT LAKE, IOWA, May 7, 1891.

GENTLEMEN:—Inclosed find draft to pay for the No. 00 "Pease" Dustless Separator just received from you to take the place of the Separator. Day before yesterday we put the mill in place and have been running it on some odd jobs, and the Separator works to our entire satisfaction. The Dustless Fan and Conductor works splendidly, carrying out everything I want it to, and I can put the suction on strong enough to take out grain if I desired. I can regulate the machine just as I want to, and am just more than pleased with it.

Yours truly,
D. L. RILEY.

	No. 3.	No. 2.	No. 1.	No. 0.	No. 00.
Extreme height.....	5 ft. 2 in.	5 ft. 2 in.	5 ft. 2 in.	5 ft. 3 in.	5 ft. 3 in.
Size over all.....	5 ft 9 in x 3 ft 10 in.	5 ft 9 in x 4 ft 6 in	5 ft 9 in x 5 ft 3 in	5 ft 9 in x 6 ft 3 in	5 ft 9 in x 7 ft 3 in
Height to where grain enters.....	4 ft. 3 in.	4 ft. 3 in.	4 ft. 3 in.	4 ft. 3 in.	4 ft. 3 in.
Floor to center of pulley..	2 ft. 3 in.	2 ft. 3 in.	2 ft. 3 in.	2 ft. 3 in.	2 ft. 3 in.
Driving pulleys.....	6 in. x 3 in.	6 in. x 3 in.	6 in. x 3 in.	6 in. x 4 in.	6 in. x 4 in.
Rev. per minute.....	450	450	450	450	450
Size of hurdles.....	2 ft. 6 in. x 3 ft. 2 in.	3 ft. 2 in. x 4 ft. x 30 in.	4 ft. x 30 in.	5 ft. x 30 in.	6 ft. x 30 in.
Capacity per hour.....	125 to 250 bu.	150 to 300 bu.	200 to 400 bu.	250 to 400 bu.	300 to 600 bu.

E. H. PEASE MFG. CO., RACINE, WIS., U. S. A.

SEE PAGES 321, 323 AND SECOND COVER PAGE.

WE ARE HEADQUARTERS

For ALL kinds of MACHINERY AND SUPPLIES

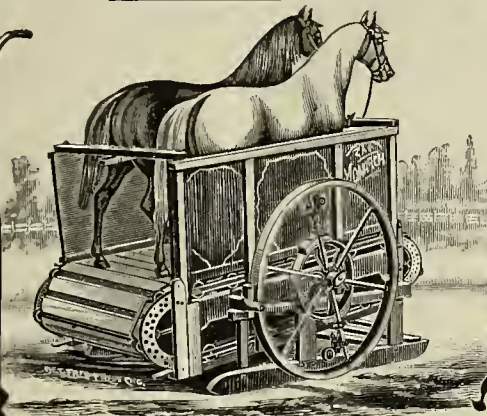
—FOR—
Grain Elevators and Mills,

SUCH AS
SHAFTING, PULLEYS, HANGERS,
PILLOW-BLOCKS, CLUTCHES, COUPLINGS,
GEARS, SPROCKETS, SET COLLARS,
TAKE-UP BOXES, CRANE SPOUTS,
LEATHER, RUBBER, COTTON AND LINK BELTING,
"FLEXIBLE" AND "SAVILE" GRAIN SPOUTS,
ELEVATOR BOOTS, BUCKETS AND BOLTS,
"SPIRAL" AND "BELT" CONVEYORS,
"PLATFORM," "DUMP" AND "HOPPER" SCALES,
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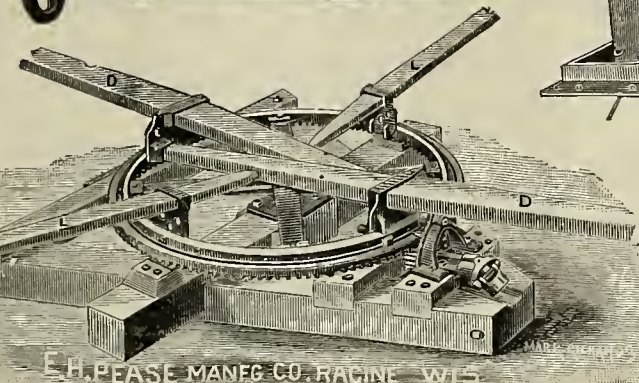
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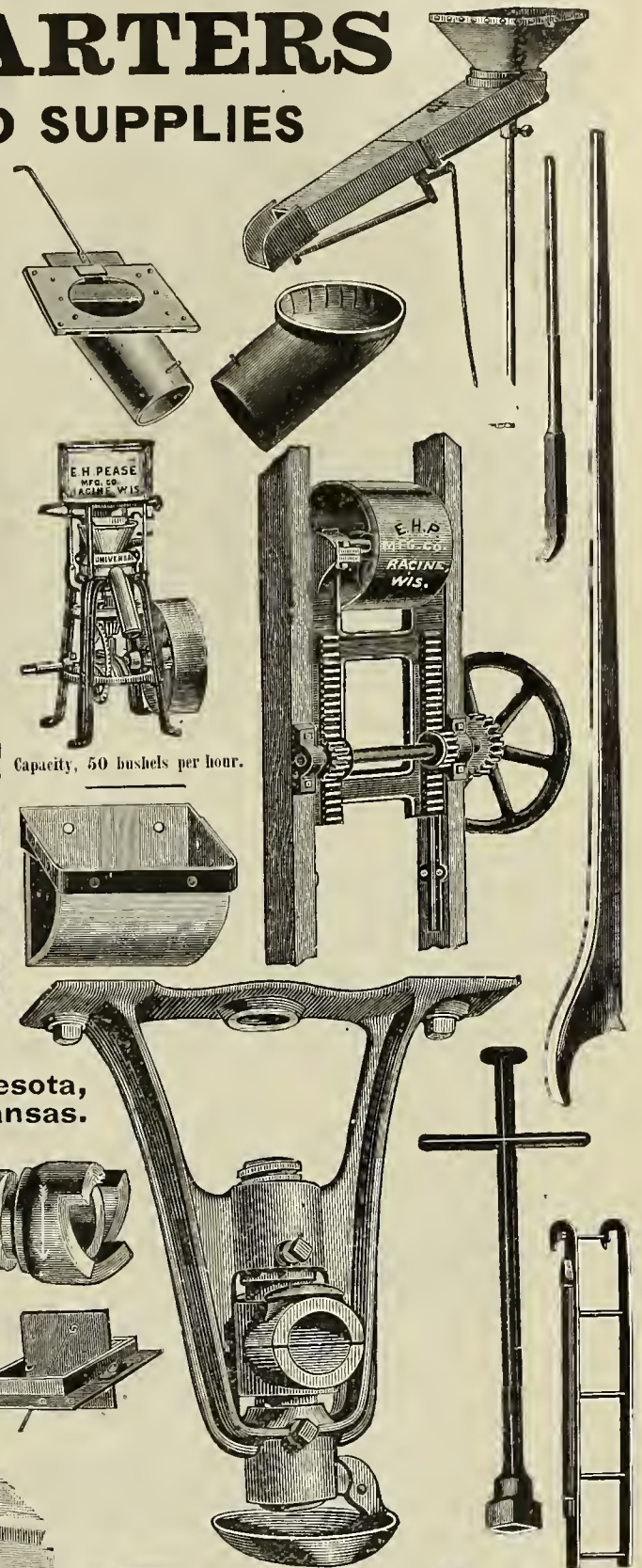
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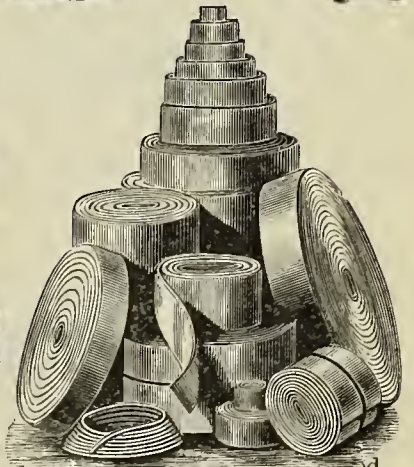
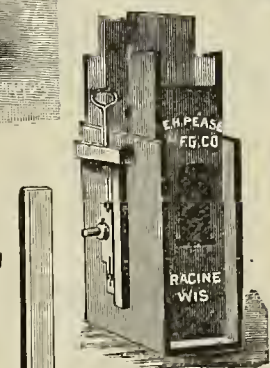
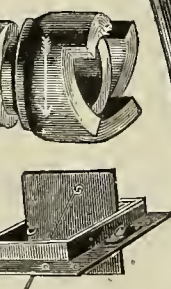
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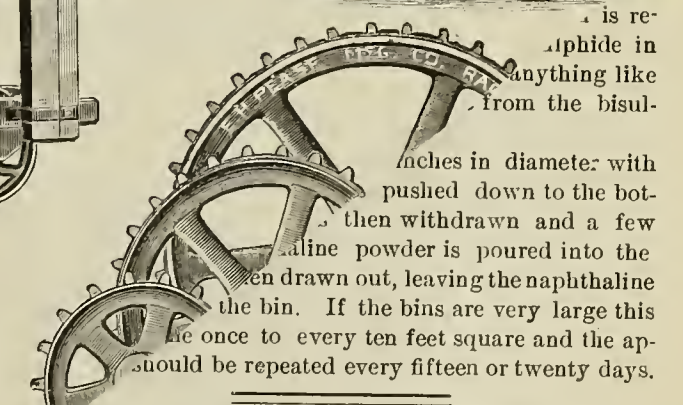
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Capacity, 50 bushels per hour.



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Exports of wheat from Tacoma, Wash., for one week recently were 122,000 bushels, all for Havre direct.

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SHIPPED UNDER THE STRONGEST GUARANTEES.

Taken all in all we offer you the SIMPLEST and BEST Grain Separator ever offered.

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Our line of Barley Cleaners is very complete, and it will pay every Barley Shipper to investigate.

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VOL. IX.

CHICAGO, ILLINOIS, JUNE 15, 1891.

No. 12.

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NEW RULES FOR INSPECTING GRAIN IN ILLINOIS.

The Illinois Railroad and Warehouse Commissioners have announced the following changes in the rules governing the inspection of grain in Illinois.

At a meeting of the Board of Railroad and Warehouse Commissioners, held April 16 1891, it was

Ordered, That that part of Rule 1 which provides for the establishment of the grades of Turkish red winter wheat shall be amended to read as follows:

The grades of Nos. 1, 2 and 3 hard winter wheat shall correspond in all respects with the grades of Nos. 1, 2 and 3 red winter wheat, except that they shall be of the Turkish variety.

In case of mixture of Turkish red winter wheat with red winter wheat, it shall be graded according to the quality thereof, and classed as hard winter wheat.

This amendment shall take effect and be in force on and after July 1, 1891.

At a meeting of said Board of Railroad and Warehouse Commissioners, held May 16, 1891, it was

Ordered, That that portion of Rule 3 which provides for the grade of No. 4 corn shall be changed to read as follows:

Corn that is badly damaged, damp, or very dirty, shall be graded no higher than No. 4.

Corn that is wet or in heating condition shall not be graded.

Ordered, That that portion of Rule 6 which provides for the grades of Nos. 1 and 2 barley shall be amended to read as follows:

No. 1 barley shall be sound, plump, bright, clean and free from other grain.

No. 2 barley shall be of a healthy color, not sound enough and plump enough for No. 1, reasonably clean, and reasonably free from other grain.

This amendment shall take effect and be in force on and after July 1, 1891.

Also that Rule 7 be amended to read as follows:

The word "new" shall be inserted in each certificate of inspection of a newly harvested crop of oats until the fifteenth day of August, of rye until the first day of September, of wheat until the first day of November, of barley until the first day of May, and of corn until the first day of June of each year.

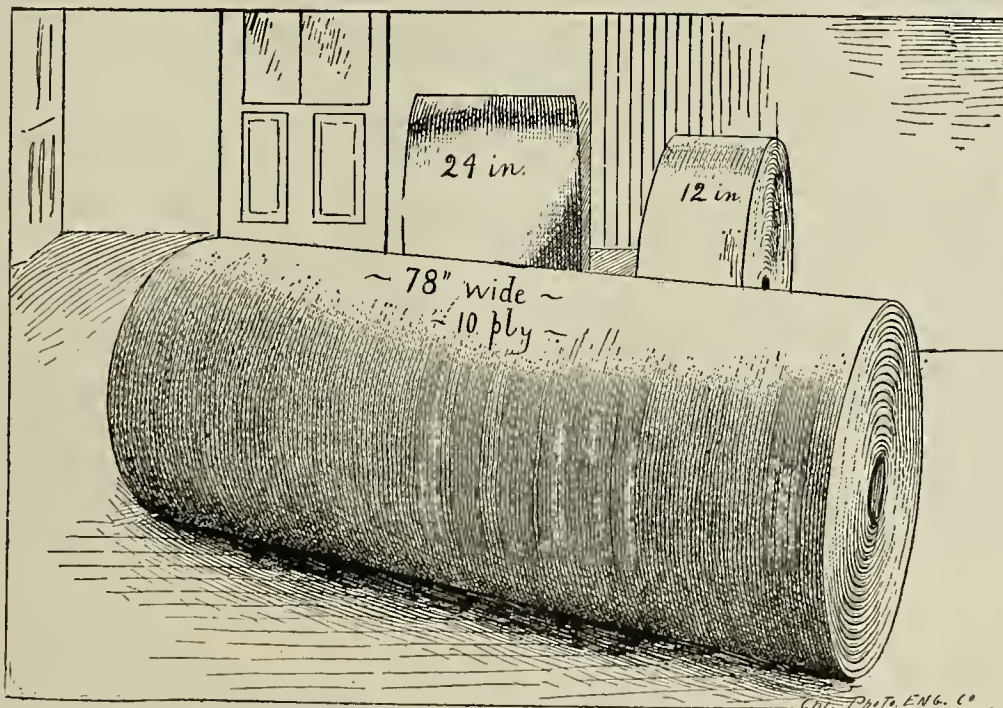
This change shall be considered as establishing new grades for the times specified, to conform to the existing grades of grain in all particulars except those of con-

dition and the distinction between the new and the old crops.

It is provided, however, that when corn is dry enough for No. 1 or No. 2, it shall not be classed as "new."

AN ENORMOUS BELT.

Probably the widest belt in existence is the one illustrated herewith which was made by the Main Belting Co. of Philadelphia for the Manufacturing Investment Co. of Madison, Me. The driving wheel upon which it



A WIDE BELT MADE BY THE MAIN BELTING COMPANY.

will be used is 21 feet in diameter, has a 9 1-6 foot face and weighs 42 tons.

The belt is 110 feet long, 78 inches wide, is 10 ply and weighs 3,001 pounds. The Main Belting Co. makes a specialty of main driving belts and belting for heavy machinery, which can be run when exposed to heat, steam or water without injury. They are specially adapted for use in mills. This is probably the largest belt that has been turned out by any factory up to this time. A leading feature claimed for the belts made by this company is that instead of beginning to wear out from the time they are put on the pulleys, they start in to improve themselves, as the composition used in their manufacture forms a coating which not only protects them but presents an elastic surface, greatly increasing their tractive power.

The Chicago office of the Main Belting Co. is at 248 Randolph Street.

METHOD OF USING BISULPHIDE OF CARBON AGAINST GRAIN WEEVIL.

The use of bisulphide of carbon against different insects attacking stored grain has greatly increased in this country since I first recommended it some thirteen years ago, says C. V. Riley, entomologist for the United States Department of Agriculture. There is, however, considerable diversity in the method of using it and the recommendations of some of our writers have evidently been made with no sense of the fact that the fumes are heavier than air, and descend rather than ascend. Prof. A. H. Church in a recent number of the *Kew Bulletin* records that he found that 1½ pounds of the bisulphide is enough to each ton of grain. He advises that it be applied in the following way:

A ball of tow is tied to a stick of such a length that it can reach the middle of the vessel containing the grain. The tow receives the charge of bisulphide, like a sponge, and is then at once plunged into the vessel and left there, the mouth or opening of the vessel then being tightly closed. When necessary the stick may be withdrawn and the charge (of 1 ounce to 100 pounds of grain) may be renewed.

The action of carbon bisulphide lasts in ordinary cases six weeks, after which period a fresh charge is required. The bisulphide does no harm to the grain as regards its color, smell, or cooking properties, and the germinating power of most seeds is not appreciably affected, provided that not too much is used, nor its action continued for too long a period.

The assis'ant director of agriculture of Burmah is reported to have used naphthaline instead of bisulphide in the following way, but I should not expect anything like as good results from the naphthaline as from the bisulphide:

A hollow bamboo cylinder 1½ inches in diameter with a stick fitted into the cavity is pushed down to the bottom of the bin, the stick is then withdrawn and a few teaspoonfuls of naphthaline powder is poured into the bamboo, which is then drawn out, leaving the naphthaline at the bottom of the bin. If the bins are very large this should be done once to every ten feet square and the application should be repeated every fifteen or twenty days.

Exports of wheat from Tacoma, Wash., for one week recently were 122,000 bushels, all for Havre direct.

THE BEST INSECTICIDE.

Prof. A. J. Cook of the Michigan Agricultural College, who has been so successful in exterminating bugs in grain warehouses and flour mills, says bisulphide of carbon is one of our very best insecticides, and were it not that the vapor is very explosive when mixed with air, and inflammable when fire is brought near, we should place it nearly at the head of the list. Yet with caution in its use, no danger need be feared. It is a compound of sulphur and carbon, one atom of the latter to two of the former, hence its name—bisulphide of carbon. It is a clear liquid, heavier than water, and volatilizes with great rapidity. The vapor is more than two and one-half times heavier than air. From its inflammable nature, it is manufactured with no slight danger. The vapors are also unwholesome, and as their entire confinement is quite impossible, the manufacture of this liquid is attended with much danger, both to health and life. From these causes as well as the extreme volatility of the liquid making its escape from vessels easy and probable, it retails at a high price. If purchased, however, from the manufacturer in 50 or 100 pound cans, it can be purchased for about 10 or 12 cents per pound, including the can. The freight is the same on 50 pounds as it is on 100 pounds. The vapor from this liquid is a most powerful insecticide. It is superior to ether, chloroform and gasoline, and far less expensive than the first two, and no more dangerous to use than the last.

It is easy to prove that the vapor of this liquid is a very powerful insecticide. The grape Phylloxera—the terrible vine destroyer of France—is a minute plant louse which attacks the roots of grape vines, and in Europe has been very destructive. Baron Thenard in 1869 recommended the use of bisulphide of carbon to destroy these pests. Holes were made in the ground by use of iron bars, the liquid turned in and the hole quickly filled. The liquid quickly volatilizes and kills many if not all of the lice. One dose is said to be ample for a single vine. On our own Western prairies it is now used extensively and very effectively to destroy the prairie dogs. John H. Elmer of Kansas, writes: "I have used bisulphide of carbon to exterminate prairie dogs with complete success. It only took five gallons to rid 120 acres of the burrowing pests. I used it as follows: I rolled up a ball of cotton batting the size of a small hen's egg, saturated it with the liquid, threw it into the hole and quickly filled the mouth of the latter with earth, stopping it air tight. It was very rare that I had to use it twice on one burrow."

This seems proof sufficient of the power of this liquid to destroy. Moreover, I have used this same liquid very successfully to destroy ants. I made a hole in the ant hill by use of an iron bar, turned in a half ounce of the liquid, and speedily stopped the mouth of the hole with earth as nearly air-tight as possible. I do not see why this is not as good as to use the cotton. I have also used this liquid very successfully in destroying cabbage maggots that work on or burrow in the underground stems.

But perhaps the most important use to which this liquid can be applied, is in the destruction of insects that attack grain. By its use moths and beetles which attack the various grains in mills, granaries or in sacks, boxes and barrels, can be exterminated.

Several years ago I was employed by one of the leading trunk lines of railroads to investigate their wheat houses, which were infested by weevils and moths, in so much that the grain was seriously damaged.

In these investigations I learned that it was possible, easy and inexpensive to rid even large bins of grain of such pests, simply by the use of this liquid. If the building was close we had only to shut it up closely, throw in this bisulphide of carbon—otherwise we must throw the liquid onto the grain in the bin and cover with oilcloth or any air-tight covering. As the vapor is so heavy it will sink to the bottom and seek out the insects, and mete out death to them. I usually used an iron tube—gas pipe—to place the liquid down deep into the grain, but now think this was not necessary. A sharpened stick that just filled the gas pipe made it easy to run the pipe into the grain. Then by withdrawing the stick the liquid could be placed near the bottom of the grain, when the pipe was quickly withdrawn. By this method, of course, the fumes would be less annoying while we adjusted the cover. Not long after these experiments my friend Prof. W. W. Tracy, explained to me the great magnitude of the pea industry—raising peas—in Northern New York. He said that this entire business was threatened with destruction by the terrible ravages of the pea weevil. Can you not, he asked, give us some cure for this great evil.

I said yes, build practically air-tight houses and use bisulphide of carbon. Prof. Tracy explained to the farmers just how to build the structures, and to use the liquid. And so the industry was saved; and to-day these "Tracy houses" are in common use by the pea growers, who produce thousands of bushels of seed peas, and destroy the weevils in this way. Each grower has one of these "bug houses." The houses are made air-tight; even the door is made very close fitting; and is made still closer by pasting paper over the edges, upon closing it, after filling the house with sacks of peas. An air-tight flue at one end opens at the very top, into the building and at the bottom out doors. A sort of chute with an adjustable air-tight valve is arranged to facilitate the turning in of the liquid. The liquid is turned in till the odor shows that the vapor is pouring out at the bottom of the flue. Then of course the air has all been forced out by the vapor, when the valve is closed. It is left closed for three days, then the doors are opened so that the vapors may escape, when the weevils are all found to be dead. As already stated, the vapor of bisulphide of carbon is about two and one-half times heavier than air, so we easily see how the heavy vapor would settle and force the air up, and finally when the room was emptied of air and filled with these vapors the vapor would be at the top of the room, and would pour down and out of the flue.

KANSAS INSPECTION RULES.

The rules governing the inspection of grain in the state of Kansas are as follows:

RULE 1—WINTER WHEAT.

No. 1 White—To be bright, sound, dry, plump and well cleaned pure white winter wheat.

No. 2 White—To be sound, dry, well cleaned, pure white winter wheat.

No. 3 White—To be sound, dry white winter, reasonably clean.

No. 1 Red—To be bright, sound, plump, dry and well cleaned red, or red and white mixed winter wheat. If mixed must not contain over one-eighth white wheat, and weighing not less than 61 pounds to the measured bushel.

No. 2 Red—To be sound, well cleaned, dry red, or red and white mixed, winter wheat. If mixed must not contain over one-eighth white wheat, and weighing not less than 59 pounds to the measured bushel.

No. 3 Red—To be sound, reasonably cleaned red, or red and white mixed winter wheat, below No. 2 red, weighing not less than 57 pounds to the measured bushel.

No. 4 Winter—To be red, white, or mixed, thin or bleached winter wheat, reasonably sound, and unfit to grade No. 3 red.

Rejected White Winter—All white, damp, tough, very musty, very smutty, trashy, dirty, damaged or thin white, or red and white mixed wheat, falling below No. 3 white.

Rejected Winter—All damp, tough, very musty, very smutty, trashy, dirty, damaged or thin wheat, falling below No. 4 winter.

MEDITERRANEAN WHEAT.

No. 1—To be sound and well cleaned.

No. 2—To be sound and reasonably clean.

No. 3—To cover sound Mediterranean wheat not clean or plump enough to grade No. 2.

CALIFORNIA, COLORADO AND UTAH WHEAT.

No. 2—To be sound, dry, well cleaned, pure white wheat, free of smut, grown in Colorado, Utah or California.

No. 3—To be sound, dry, reasonably cleaned white wheat, grown in Colorado, Utah or California.

Wheat of above description, of lower grades, to be based on its merits as regular No. 4 or rejected.

HARD WINTER WHEAT.

No. 1—To be sound, dry and clean hard winter wheat, and to weigh not less than 61 pounds to the bushel.

No. 2—To be sound, dry and reasonably clean hard winter wheat, and to weigh not less than 59 pounds to the bushel.

No. 3—To be sound and reasonably clean hard winter wheat, and to weigh not less than 56 pounds to the bushel.

No. 4—To be reasonably sound, thin or bleached hard winter wheat, unfit for grade No. 3 hard.

In case of mixture of hard winter wheat with soft winter wheat, it shall be graded according to the quality thereof, and classed as hard winter wheat.

HARD SPRING WHEAT.

No. 1—To be bright, sound and well cleaned hard spring wheat.

No. 2—To be bright, sound, hard spring wheat, reasonably cleaned.

No. 3—To include all dry and sound club or hard spring wheat not equal to No. 2.

SOFT SPRING WHEAT.

No. 1—To be bright, sound and well cleaned soft spring wheat.

No. 2—To be bright, sound, soft spring wheat, reasonably cleaned.

No. 3—To include all dry and sound soft spring wheat below No. 2.

WHITE SPRING WHEAT.

No. 1 White—To be bright, sound and well cleaned white spring wheat.

No. 2 White—To be bright and sound white spring wheat, reasonably cleaned.

No. 3 White—To include all dry and sound white spring wheat below No. 2.

REJECTED SPRING WHEAT.

All damp, tough, musty, very smutty, trashy, dirty, damaged or thin spring wheat falling below No. 3.

MIXED SPRING AND WINTER WHEAT.

All mixed spring and winter wheat of sound quality to be graded as spring, according to quality and condition.

RULE II.—CORN.

No. 1 Yellow—Shall be pure yellow corn, sound, dry and well cleaned.

No. 2 Yellow—Shall be three fourths yellow, sound, dry and reasonably clean.

No. 3 Yellow—Shall be three-fourths yellow, reasonably dry and reasonably clean, but not sound enough for No. 2 yellow.

No. 1 White—Shall be pure white corn, sound, dry and well cleaned.

No. 2 White—Shall be fifteen sixteenths white, sound, dry and reasonably clean.

No. 3 White—Shall be fifteen-sixteenths white, reasonably dry and reasonably clean, but not sound enough for No. 2 white.

No. 4 White—Shall be fifteen-sixteenths white, not wet or in a heating condition, and unfit to grade No. 3 white.

No. 1 Corn—Shall be mixed corn of choice quality, sound, dry and well cleaned.

No. 2 Corn—Shall be mixed corn, sound, dry and reasonably clean, but not good enough for No. 1.

No. 3 Corn—Shall be mixed corn, reasonably dry and reasonably clean, but not sufficiently sound for No. 2.

No. 4 Corn—Shall include all mixed corn, not wet or in heating condition, that is unfit to grade No. 3.

RULE III.—OATS.

No. 1 Oats—Shall be mixed oats, sound, clean, and free from other grain.

No. 2 Oats—Shall be mixed oats, sweet, reasonably clean and reasonably free from other grain.

No. 3 Oats—Shall be mixed oats that are slightly damp, unsound, slightly musty, dirty, or from any other cause unfit to grade No. 2.

No. 4 Oats—Shall be mixed oats, not wet or in a heating condition, or from any other cause unfit to grade No. 3.

No. 1 White Oats—Shall be pure white, sound, clean and free from other grain.

No. 2 White Oats—Shall be seven eighths white, sound, reasonably clean and reasonably free from other grain.

No. 3 White Oats—Shall be seven-eighths white, but not sufficiently sound and clean for No. 2.

No. 4 White Oats—Shall be seven-eighths white, not wet or in a heating condition, badly stained or from any other cause unfit to grade No. 3 white.

No. 1 Northern Oats—Shall be mixed oats of Northern growth, and in condition the same as No. 1 oats.

No. 2 Northern Oats—Shall be mixed oats of Northern growth, and condition the same as No. 2 oats.

RULE IV.—RYE.

No. 1—To be plump, sound, bright and well cleaned.

No. 2—To be sound and reasonably cleaned.

No. 3—To include all damp, musty, dirty rye, unfit for No. 2.

No. 4—To include all badly damaged, very dirty, and very thin rye, unfit to grade No. 3.

RULE V.—BARLEY.

No. 1 Fall—To be plump, bright, sound, and free from other grain.

No. 1 Spring—To be plump, bright, sound, and free from other grain.

No. 2 Fall—To be sound and reasonably clean.

No. 2 Spring—To be sound and reasonably clean.

No. 3 Fall—To be reasonably clean and merchantable.

No. 3 Spring—To be reasonably clean and merchantable.

Rejected—To include all unsound and damaged barley.

RULE VI.—NO GRADE GRAIN.

All grain that is wet, hot, or in a heating condition, shall be classed as no grade.

RULE VII.

All inspectors shall make their reasons for grading grain, when necessary, fully known by notations on their books. The weight alone shall not determine the grade.

RULE VIII.

Each inspector is required to ascertain the weight per measured bushel of each lot of wheat inspected by him, and note the same on his books.

"F. M. B. A. bugs" is the name given to a new species of oat lice in Christian and Shelby counties, Ill. They do one thing only. Like the members of the F. M. B. A., they do not try to farm.

A SOUTHERN ELEVATOR AND MILL.

At Memphis, Tenn., there has recently been completed for the Empire Mill, Elevator and Warehouse Company a very fine plant consisting of a mill and elevator, an illustration of which accompanies this article. The mill and elevator building were built and equipped by the well-known architects and builders, The Crane Company of Minneapolis, Minn.

The elevator is 48x110, has 55 feet of cribbing, a four-story cupola and a capacity of 250,000 bushels. It is equipped with three double Cheney Peerless Grain Shovels, two large size Howe Separators, one large size oat clipper, three stands of elevators and three receiving chutes.

The steam plant, consisting of a brick engine room 50 feet square, is located between the elevator and mill buildings. The power is supplied by a 12x36 Hamilton-Corliss engine. The engine room is furnished with a Knowles Company Pump and two Berryman Feed Water Heaters 80 and 200-horse power, manufactured by J. B. Davis & Son of Hartford, Conn. Also three tubular boilers 16x60. These were manufactured by Daniel Shea & Co. of Memphis, Tenn.

Three of the celebrated Fairbank's Hopper Scales, each of 1,000 bushels capacity, are a part of the equipment, also a fine passenger elevator made by J. W. Reedy & Co., Chicago, Ill. The latter is one of the features of the elevator, running to the top of the building, is easily handled, and is a decided acquisition.

Directly in front of the elevator is a model corn mill, four stories high, thoroughly fitted with modern machinery, and has a capacity of 800 barrels cornmeal, and 100 tons of chopped feed daily. Power is furnished by one 18x42 Hamilton-Corliss engine.

The machinery for this mill was furnished by the well-known Great Western Manufacturing Company of Leavenworth, Kan., which is a guaranty of good work.

In connection with the new elevator the company will make use of the old elevator which has a capacity of 100,000 bushels and will, no doubt, be called into use a greater part of the time. The sides of the elevator and mill building are covered with corrugated iron, and the roof with steel, making a thorough protection against fire.

The shipping facilities are very superior. The company has connection with four different railroads, giving them ample opportunity to ship or receive to or from any direction, North, East, South or West.

The elevator is adjoined by a large warehouse 150x200 feet, which is used for storing hay, sacked grain and general merchandise. The whole plant is leased by Messrs. E. C. Buchanan & Co., who own stock in the corporation and operate the whole plant. This firm does a large business in hay, grain, mill feed, flour and meal, selling goods throughout the Mississippi Valley, and to the South Atlantic states.

This article would not be complete if we failed to give credit to Mr. J. H. Tramboussier, mechanical engineer, and Mr. G. T. Honstain, superintendent of construction

for the Crane Company, in the erection of this plant, as both of these gentlemen gave their personal attention to every detail, and spared no pains in making this plant one of the finest and most complete in the country.

In this connection we might mention that Mr. Honstain has severed his connection with the Crane Company, and with his brother, A. E. Honstain, has established an office at 424 Beery Block, Minneapolis, Minn., under the firm name of Honstain Bros., elevator and mill builders. Their long experience in this line of business eminently qualifies them for their work, and we are confident they will obtain a large share of the elevator building business.

Messrs. E. C. Buchanan & Co., with the Empire eleva-

REGISTRATION OF WAREHOUSE RECEIPTS AT CHICAGO.

Several months ago we gave a description of the methods of the grain inspection department of Chicago. Another department closely related to the inspection department is the registration office where receipts issued by the public warehouses are registered and canceled. To complete the description of the entire system of inspection and registration we will give a brief sketch of the method of conducting the business of the registrar's office.

At 7:30 A. M. of each business day the messenger brings from each elevator a report from the assistant inspector

there stationed, giving the kind, grade and elevator weight of each car, by number and initial; received into store, and the kind, grade and number of bushels (elevator weights) of grain received into store from canal boat or vessel the previous day. These reports of grain received are copied into counter books, from which they are checked off as the warehouse receipts bearing the same numbers are presented for registration, and found to be correct as to grades. The reports of shipments are entered in detail in the shipping books.

A person presenting a receipt issued by the warehouse proprietor for registration must fill up a blank describing the same in detail, which is carefully compared with the receipt before the official stamp is affixed, and from these blanks the registration books proper are made up to show the date and number of each receipt, the name of the party presenting it and the amount, kind and grade of grain it represents.

Each day the registrar visits the offices of the several warehouse firms and obtains a report of the previous day's shipments, describing accurately the receipts canceled to represent such shipments, and carefully compares, with each report, the canceled receipts it describes. Upon the return of these reports to the registration office, each receipt described therein is marked "can-

celed," with the date of cancellation upon the registration books, and compared with the assistant inspector's reports of shipments received in the morning.

From the registration and shipping books the receipts and shipments of grain are posted each day to ledgers, from which the weekly reports of the amount, kinds and grades of grain in store in each warehouse are made and posted on 'Change.

Thus, as stated, whenever grain is received at public elevators, the kind, quality and grade is reported to the registrar by the public grain inspectors and by the elevator proprietors, so the chance of the registrar's certifying receipts in excess of the amount of grain in store in any elevator is very small. Before any grain is shipped from a public warehouse a receipt for the amount, kind and grade to be shipped must be canceled. This cancellation is reported to the registrar by the elevator owner and the public inspector at that house also reports to the registrar the kind, grade and amount inspected out. So there is a double check on shipments as well as receipts.

The public elevator proprietors also issue a weekly re-



ELEVATOR AND MILL OF E. C. BUCHANAN & CO., MEMPHIS, TENN.

tor, mill and warehouse, are thoroughly prepared to carry on their business and are in possession of one of the finest plants of this kind in the country, and one of which the city of Memphis, as well as the gentlemen under whose superintendence the work was done, may well feel proud.

W. T. Kime purchased an elevator at Westboro, Mo., two years ago with money belonging to his brother. Against his wishes he speculated in grain on the Chicago Board of Trade, and a few weeks ago the inevitable crash came, resulting in the loss of his brother's little capital. He disappeared, but was found wandering in St. Louis, apparently demented. His friends took him home.

The Union Elevator Company of Omaha has petitioned the Board of Equalization to reduce its tax assessment from \$50,000 to \$15,000, on the ground that the company is a corporation composed of six different railroad companies which have stock in it, and that the warehouse has been included in the assessment of all property in the state that is used in the operation of the railroads.

port to the registrar showing the amount and grade of each kind of grain on hand at the end of the week. The registrar keeps an account with each house and can, upon a moment's notice, tell the amount of each grade in any public warehouse.

The expenses of the office are paid from the funds of the inspection department. The employes of the department are not very numerous; at present only five are employed in the office. The active man of the department is Chief Clerk S. S. Schnacke, who has been connected with the department many years. The department was established in 1870 at the same time the inspection department was established.

For the past six years J. W. Burst has been warehouse registrar, but on June 1 he was succeeded by Capt. John M. Turuhull of Monmouth.

CONSTRUCTING A CHEAP GRAIN STOREHOUSE.

BY R. JAMES ABERNATHEY.

An inquirer in the last number of the *AMERICAN ELEVATOR AND GRAIN TRADE* inquires how best to provide for storing grain to carry it from October to May. The question is very indefinite and ambiguous, and therefore difficult to answer. The querist undoubtedly knows that an elevator, as ordinarily built, makes a most excellent storehouse, but he may be in search of something for temporary use that will cost less; and if so, it can be said that storerooms of any kind, and in any kind of a building, answer all purposes provided the grain is sweet and dry when stored, and the storeroom is kept dry after the grain goes in. However, it may be that such storerooms are not what is desired on account of inconvenience in handling, and it may be inferred that a cheap house along the track in which grain can be handled easily and quickly is the thing sought for. It might, though, as well be understood from the start, that even the simplest warehouses cannot be built for nothing; money is required to build even a corn crib, and no one can afford to put up a grain storage house for one season's use only, as the cost would more than absorb any legitimate profit that would accrue on grain carried over the winter, except such winters as 1889-90, which occur very rarely.

A grain house to be useful must be strong enough to sustain the grain and hoarded up tight on the outside to keep out the dampness, and must have a tight roof on for the same purpose. It must also be provided with machinery for receiving and distributing grain, and for discharging it; also for moving it about and changing it from bin to bin in case of dampness. To be more specific, take for example a plant 40x100 feet on the ground, and 20 feet high from outside walls to square, and covered with a half-pitch roof; the sides and ends to be studded with 2x8 planks standing on end and sided up with good ship lap, flooring or other kind of manufactured lumber used for that purpose, it does not matter what, so long as it is tight and storm proof, or proof against rain and snow, as both are somewhat injurious to grain while in store. The roof should be shingled as it will be rather steep for other kinds of roofing material.

The building should be placed with one end next to the track, and running outward from it. It should rest on four parallel walls, two outside and two center walls. The inside walls should be thirty inches apart, the center line of the building being midway between the two middle walls. If the surface of the ground be elevated above the tracks and is dry and free from spring water, and can be protected against surface water, the upper faces of the middle walls should be slightly below the surface of the ground so that when a floor is laid on joists resting one end on the outer wall and the other on the near inner wall, there will be a slight pitch toward the center, not sufficient for grain to run, but merely to make the sweeping and cleaning out of the bins an easy matter. Sound joists, 2x12, should be laid at intervals of twelve inches on the walls thus prepared, each one of the joists having an additional support halfway between the walls; a light wall running on or along the top of the ground may prove as cheap and convenient a support as can be given. It need go below the surface just far enough to make it firm; the nature of the ground will determine how far.

The joists in this case must be twenty feet long, and reach from outer face of outside wall to center of inside wall, so that when the floor is laid both walls are covered. The flooring should be good and free from knots. That done, we have two floors or two sections of the same floor,

the central space between the two middle walls being still open. In that space we fit a long conveyor running the whole length of the building, the upper edges of the box being dropped twelve inches from the surface of the floor. When building the walls insert cross pieces of light timber at proper intervals for the purpose of supporting the conveyor box, as it will save much trouble afterward. When the conveyor box is in place close the space on each side between the box and the floor with short pieces of flooring resting on the edges of the box and against the ends of the main floor, supported below in such a manner as may be necessary. We now have the building snugly floored over in imagination, but in practice we are not in such a hurry with that part of the job, the flooring usually being left until the building is closed in.

For the sides of the building use studding 2x6 or 2x8 and 20 feet long, standing on end at intervals of twenty inches, or one for each alternate joist, to which the studding must be securely fastened by nailing or otherwise, at the bottom end. For the ends of the building spike together three or four of the floor joists according as the studding may be 2x6 or 2x8, and form a girder or beam that will reach from wall to wall as the joists do, but instead of pitching it upward as the joists, set it level by letting it down in the outer wall and raising it above the inner wall. Four of these beams will be required on which the studding in the ends will stand. Along the two middle walls we place studding six feet in height to correspond with the studding on the outside, fastening the lower ends to joists in the same way. Across each pair of the short studs we lay, on edge and securely fasten, a short piece of the same studding, on which is planted another piece of studding reaching up to the level of the sides' and ends' studding. The reader will understand that the passageway thus provided in the center of the building, which runs clear through it, is to enable a man to pass through with ease to attend to opening and regulating the gates through which the grain passes from the various bins into the conveyor when loading out or when changing grain from one part of the house to another, as when it may be wet or damp and requires shifting to dry it. The passageway is also needed to give the conveyor proper attention and keep it in repair.

We now have the building studded all around and lengthways through the center, and it is ready for siding up; before doing so, however, it is better to divide it off into bins, of which there may be as many as may be required. For a regular storehouse not many bins are required, and the fewer these are the less the house will cost, as it will take less lumber and less work to build it. The bins are formed by dividing each half of the house into such spaces as may be desired or required; each one, as will be understood, must reach from the side of the house to the middle, so as to empty into the conveyor. When the bin spaces are laid off the partition studding can be set up, and then all is ready for siding up to the square. The roof will be laid in the ordinary way, the gable studs resting on plates laid on top of the end studding. When sided up inside and out, $\frac{3}{4}$ -inch rods must be used for tightening all together. They must run from center wall to each side, and from bin to bin. One rod for about every six feet square of space will answer for a building no higher than the one considered. For high buildings a rod for every four feet square should be used. On the outside of the house very large washers should be used on the rods so as to take a broad grip on the siding and prevent pulling through or otherwise injuring it.

In the center of the house at the top there must be another line of conveyors running nearly the full length of the building. This conveyor must be well up in the comb. Up through the building near the head of the conveyors a stand of elevators must be placed, which must run far enough below the lower line to permit the grain to be spouted from the conveyor into the foot of the elevator, and also to receive the grain from the outside through a dump, or by any other means provided. The elevator must run high enough to spout freely into the upper conveyor, and for that purpose a small cupola must be built in the roof to receive the head of the elevator. At the end of the building a driveway and dump can be provided for taking grain from wagons, if so desired; that, however, will add considerably to the cost of the building, and instead, the grain can be shoveled out of the wagons into a broad chute that leads to the boot of the elevator. For driving the two conveyors and the elevator horse power may be used. It is better, though, to use a small semi-portable upright boiler and engine, as in

that way larger conveyors and elevator buckets can be used and the material can be handled much faster.

The method of hauling and distributing ought to be understood by most of the readers of the *AMERICAN ELEVATOR AND GRAIN TRADE*, but for the benefit of those who may not understand, I will briefly explain that when taking grain in from wagons at the local end of the house it is emptied into the stand of elevators which delivers it to the upper conveyor, which conveys it toward the track until the bin to which it belongs is reached, when it is discharged. When taking grain from the track end, the car is discharged into the lower conveyor, which conveys away from the track into the foot of the elevator, which takes the grain up and distributes it as from the wagons. When loading out the bins are emptied into the lower conveyor; the grain is carried to the elevator, taken to the upper conveyor, conveyed to the track and then spouted into the car. The same course substantially is pursued when changing from one bin to another.

A little reflection will certainly convince all that, for convenient storage purposes, the house here described will prove much the cheapest and best, being permanent in character.

JUNE CROP REPORT.

The June report of the statistician of the Department of Agriculture makes the area in winter wheat as compared with the breadth harvested last year, 111.5; spring wheat, 103.4; barley, 107.1; rye, 101.5; oats, 97.9.

Condition: Winter wheat, 96.6; spring wheat, 92.6; barley, 90.3; rye, 95.4; oats, 85.

In comparison with 1889 the increase in wheat acreage is quite moderate. The reduction last year of more than 2,000,000 acres suggests the reason for most of the present increase. This advance is therefore both replacement and development, the former notably in Illinois, Missouri, Kansas and California, the latter in less degree in Washington, Oregon, the Dakotas, and in several territories. These violent fluctuations make the investigation difficult, and in some districts will render necessary supplementary work. To this extent present estimates may be considered preliminary.

The extension of acreage, according to our correspondents, depends on the price of wheat and not on available land. A large increment of wheat breadth is reported in Washington, a large amount of new land is being broken for next year's crop, and the local opinion is expressed that not more than one-fifth of the wheat land of that new state is under cultivation.

The winter wheat crop is encroaching upon the southern and eastern borders of the spring wheat district, notably in Iowa and Wisconsin, under protection of crop diversification and new methods of cultivation, while spring wheat extension responds moderately to the stimulus of higher prices.

The condition of winter wheat has declined only 1 per cent. The average of New York is 96; Pennsylvania, 97; Georgia, 98; Texas, 98; Ohio, 99; Michigan, 90; Indiana, 97; Illinois, 98; Missouri, 99; Kansas, 95; California, 99. The first monthly statement of averages of spring wheat makes Wisconsin, 77; Minnesota, 89; Iowa, 95; Nebraska, 97; the Dakotas, 96.

Early sown wheat was injured by frost in Wisconsin and Minnesota. Germination was arrested by drouth in the same region. In South Dakota drouth has retarded growth. Conditions have been more favorable generally in North Dakota. Recent rains in Nebraska and Iowa have greatly benefited wheat, and encouraged the growers.

Drouth in May has greatly injured oats on the entire Atlantic coast. Winter oats in the Southern states are far better than the spring crop, which has been partially destroyed by drouth and insects. Not only was the acreage reduced in the Ohio Valley, but condition is low in consequence of dry weather. In Minnesota the injuries by drouth were supplemented by those of cut worms. Condition is highest on the Northern Atlantic coast and on the Pacific, where areas are very limited.

The increase in the acreage of barley is general in almost every section where it is grown, and especially marked in the states of the Ohio Valley, in Wisconsin and California. Condition is uniformly higher except in portions of the Northwest, where it has been lowered by drouth and cool weather.

The report of the statistician of the Department of Agriculture for June makes the acreage in cotton 97.7 per cent. of the area of 1890, and the average condition is 85.7.

STEEL AND IRON ROOFING.

The consumption of steel and iron roofing is continually increasing, and improvements are continually being made, so that those not in the trade are not aware of the great quantity of this style of roofing used, and the satisfaction given by iron roofing of recent make. The steel and iron roofing illustrated herewith is made by the Chicago Steel and Iron Roofing Company of Chicago, manufacturers of box annealed steel and iron roofing, painted or galvanized, also corrugated iron roofing, siding and ceiling, and beaded iron siding and ceiling.

The company claims that its roofing is made so as to be adapted to any style or kind of roof, that it is easily applied, is perfect in construction, is cheap, durable and safe, is proof against lightning, a protection against fire and secure against wind and water. The roofing made by this company is made from the best material, in both iron and steel, by men having been connected with the iron industries for many years. It is cheaper and more serviceable than tin, and will last longer if well painted

superior merit and simplicity of our roofing and sidings, and do not hesitate to recommend them in preference to other roof coverings. We have numerous inquiries from all sections, with a steady growing trade, and very favorable future.

THE INDIAN WHEAT SCARE NEARLY OVER.

A commercial fallacy, based on current statistics, was generally prevalent a few years ago relative to India wheat, says the statistician of the Government Agricultural Department. The building of a few railroad lines brought to the seacoast a surplus that has always existed in productive seasons, which was preserved in pits to tide over the possible requirements of seasons of scarcity. This opportunity for exportation, stimulated by the difference in Liverpool value of silver and gold, enlarged the normal area of about 26,000,000 acres in 1878 to 28,000,000 in 1884-85, since which date there has been a general decline to lower figures than those accepted as the

THE DEALER WAS EMBARRASSED.

A day or two ago a few minutes before the opening of the Board of Trade, there stepped into one of the elevators in the building a well-known commission man and a country dealer. The countryman was a young, fresh-faced, unsophisticated-looking chap, who was in Chicago for the first time looking after a couple of cars of wheat that he had shipped in. As the elevator rose he casually remarked to the commission man, "I was married last night and this is a sort of a bridal trip." Congratulations were extended by the commission man as they stepped out into the hall leading to the exchange. Among the others who rode up in the elevator was a certain blonde young man whose love for a practical joke has made him rather famous on the floor. He had chanced to stand back to back with the young countryman, had overheard the confidential admission made by him to his friend, and as they stepped from the elevator he managed to get a good look at Mr. Younghusband.

An hour or so later, when he had a few moments to

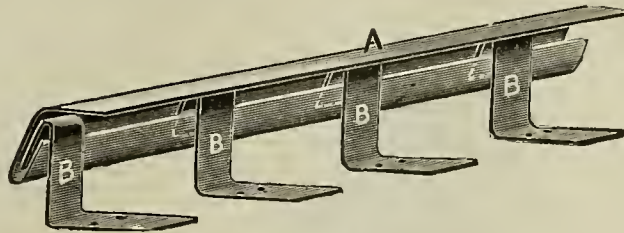


Fig. 2.

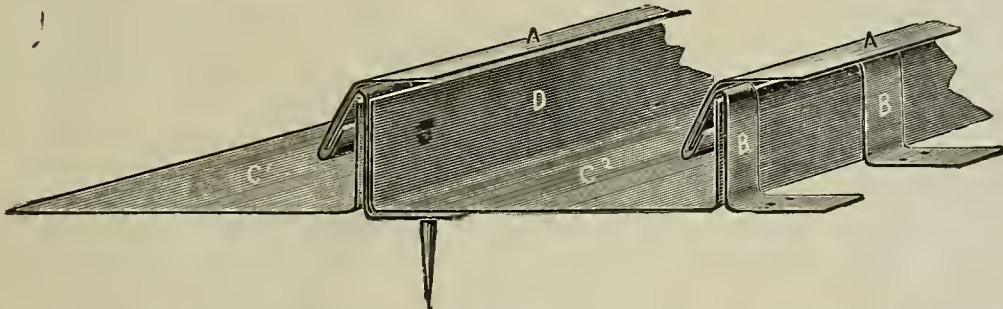
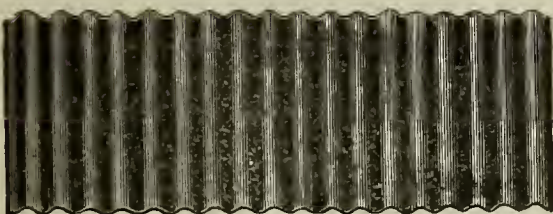
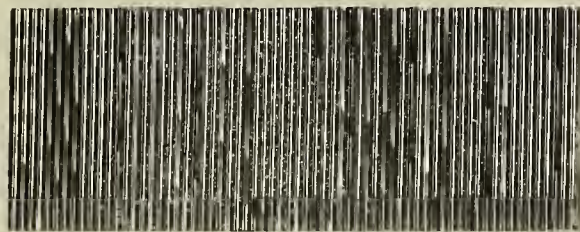


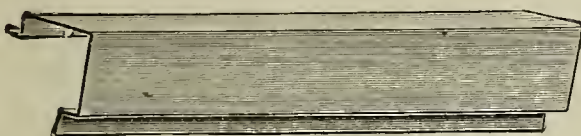
Fig. 3.



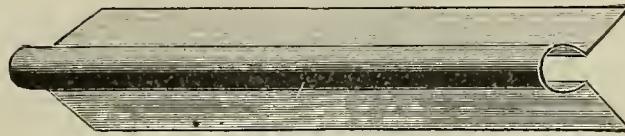
ELEVATOR SIDING.



CORRUGATION CROSSWISE OF SHEET.



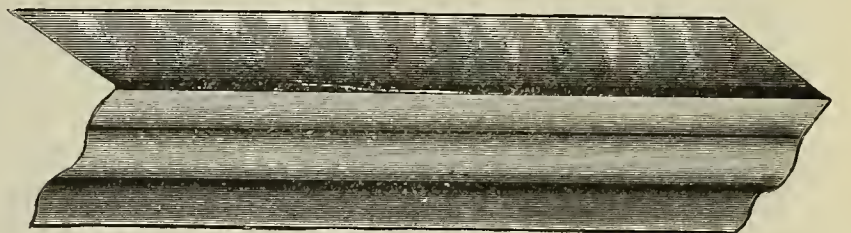
CORNER BOARD.



RIDGE ROLL.



CRIMPED ROOFING.



CORRUGATED FLASHING.



BEADED CEILING.



RIDGE CAP.

every few years. It has few joints and is formed so as to adapt itself to expansion and contraction. It is infinitely better than shingles, and costs less laid. Shingles are now recognized by all good builders as a thing of the past. It is better than slate, and weighs only about one eighth as much per square.

It is claimed that the Chicago Patent Roll and Cap Roofing is the simplest, best and easiest Roll and Cap Roofing to lay now on the market—any person of ordinary intelligence can apply it. All the labor is done before shipment, except turning up the side seam *D*, one inch on each side *Fig. 3*, and closing the cap *A*. The cap is formed with the cleats locked in position (see *Fig. 2*) and shipped ready to put on the roof. As soon as one length, *C*, *Fig. 3*, is put in position on the roof, the cap *A* is placed over the side or standing seam *D* with the cleats pressed firmly against it, and all the cleats are then nailed. The next sheet, *C*, is then placed firmly against the cleats *B*, when the cap is then ready to be squeezed to a finish with tongs.

A number of different shaped sheets are made for use on different and like buildings, a few of which are illustrated herewith.

In a recent letter the Chicago Steel and Iron Roofing Company say: We carry a full line of goods required in the roofing trade in both steel and iron.

Customers can depend on getting prompt service, best materials, at minimum price.

Architects and builders have become convinced of the

acreage before there was any exportation, those of 1889-90 being less than 25,000,000.

In the report of the statistician for November, 1887, the public was cautioned not to receive certain views of commercial writers which were extravagant and sensational, making India a veritable bugbear in the American wheat market. The idea, so improperly promulgated, of rapid increase of acreage, improvement of methods of cultivation, introduction of improved implements, threatening a monopoly of the supply of the European deficiency was duly combated. It was deprecated and positively denied in these pages. The palpable fact was insisted upon that such changes were improbable, that there was a dense population to feed, comparative scarcity of food products, and tenacious habits and prejudices of centuries, making sudden changes impossible; that "the natives still work for a few cents a day, plow with a stick, thrash in the primitive fashion, and market dirt and seeds of weeds with the grain," and that "there is scarcely a people on the face of the earth less likely to change their industrial status suddenly." A prediction of declining area and exportation has been verified from official records, which show a decrease of more than 3,000,000 of acres. The largest exportation was 41,558,765 bushels of domestic product in 1886-87, and that of 1889-90 only 25,764,123 bushels. If recent official indications of the Indian government are conclusive and final, very little wheat may be expected to go out of India from the harvest just completed.

himself, he stepped over to the telegraph counter and wrote upon a blank: "I have bet \$100 to \$10 that you were but recently married. Do I win my bet?" This he folded and placed in an envelope, and calling a messenger boy pointed out Mr. Younghusband to the urchin and bade him deliver the message.

He told a few of his cronies on the floor what he had done, and the young countryman was watched with considerable interest by a dozen or twenty traders in various parts of the crowd. He received the message from the boy with a half doubting look, opened it slowly, and as he comprehended its contents his face was dyed a deep crimson, while a foolish smile lifted the corners of his mouth. He looked about him sheepishly to see if he could discover the author of the message, and then beat a rather precipitous retreat. He failed to put in an appearance again that day.

The destructive hop aphid has made its appearance in great numbers on the vines in the Sacramento Valley to the alarm of California hop growers. The insect has done great damage in Oregon and Washington in past years.

The high prices this season of wheat and oats have induced Ontario farmers to grow a greater area than usual, while the low and great uncertainty of barley quotations, influenced to a great extent by the McKinley bill, account for the small area of barley sown this spring according to the official crop bulletin.

MEETING OF THE OHIO GRAIN DEALERS' ASSOCIATION.

The Ohio Grain Dealers' Association held its annual meeting at Put-in-Bay May 27. The party left Columbus on the morning of the 26th, going over the Big Four R. R. via Springfield and Sandusky, and numbered 125 persons when Sandusky was reached. The trip was a very pleasant one, an elaborate lunch being served on the train under the direction of the officers of the organization.

The weather at the Island grew rather cool, and not very pleasant for fishing, but the 27th and 28th were spent by nearly all the party on the water in small boats, and quite a large number of the finny tribe lost their lives as the result of the expedition. One of the party succeeded in capturing a 4-pound black bass, and of course he was the envied one of all, the large number of fish taken being of rather small size.

The business meeting of the association was held at the Beebe House Hall on the evening of the 27th. There was no business of any importance transacted except the election of officers, which resulted as follows: President, E. C. Wagner, Columbus; vice-president, E. M. Bennett, Jr., Urbana; secretary, E. W. Seeds, Columbus; treasurer, J. W. McCord, Columbus. Board of managers: J. C. Hannum, Duvall; J. W. Jones, Radnor; J. P. McAllister, Columbus; J. W. Wolcott, Conover; N. R. Park, Ada. Legislative committee: J. W. McCord, D. McAllister, E. W. Seeds, E. C. Wagner, W. A. Hardesty and E. C. Beach.

After election of officers a number of the members were called on for addresses, several of whom responded in a very happy manner.

The meeting closed with considerable enthusiasm and a determination to continue these annual excursions and strive to make each one a greater success than the former, as has been the case for the last three or four years, every one present voting the meeting of this year the greatest success attained since 1881.

CHARGES ON GRAIN AT CHICAGO.

Notice was issued recently by the roads running west, northwest and southwest from Chicago that an agreement had been adopted establishing the following rules to govern charges on grain received at Chicago and to become effective June 10:

Grain in bulk consigned to Chicago locally will, after arrival and inspection, be delivered to and unloaded in elevators of this company without switching charge, unless such grain is billed track delivery or held out by consignees. If billed track delivery, such delivery will be made free of switching charge. If held out for the purpose of inspection by Committee of Appeals no car service charge will be made, provided disposition is made within forty-eight hours after being placed on appeals switching track.

Grain consigned to Chicago locally billed track delivery, then ordered to elevator before track delivery is made, will be sent to elevator without switching charge, provided order is given within thirty-six hours after inspection, when inspection is made before 10 A. M. of the day of arrival; if inspection is made after 10 A. M. the cars must be ordered before 6 P. M. the second day. Such grain, however, will be subject to car service charges if delayed on track by consignee beyond the time specified, unless the same is held out for inspection by Committee of Appeals.

Grain consigned to Chicago locally billed track delivery, or if held out and subsequently ordered to private tracks or to connecting lines, will be subject to a minimum switching charge of \$2 per car. Grain consigned to Chicago locally and reordered after delivery has been made to elevator or team track will be subject to a minimum switching charge of \$2 per car. Grain ordered to private tracks, warehouses, elevators, or industries located on connecting lines will be subject to an additional switching charge according to location.

Reconsignment orders must be made within thirty-six hours after inspection, provided inspection is made before 10 A. M. of day of arrival. If inspection is made after 10 A. M. cars must be ordered before 6 P. M. of the second day, otherwise the grain will be subject to car service charges. Grain delivered to team track must be unloaded within thirty-six hours after being placed in position to unload, provided orders are received for team track delivery the day of arrival. If billed to team track without inspection forty-eight hours will be allowed for

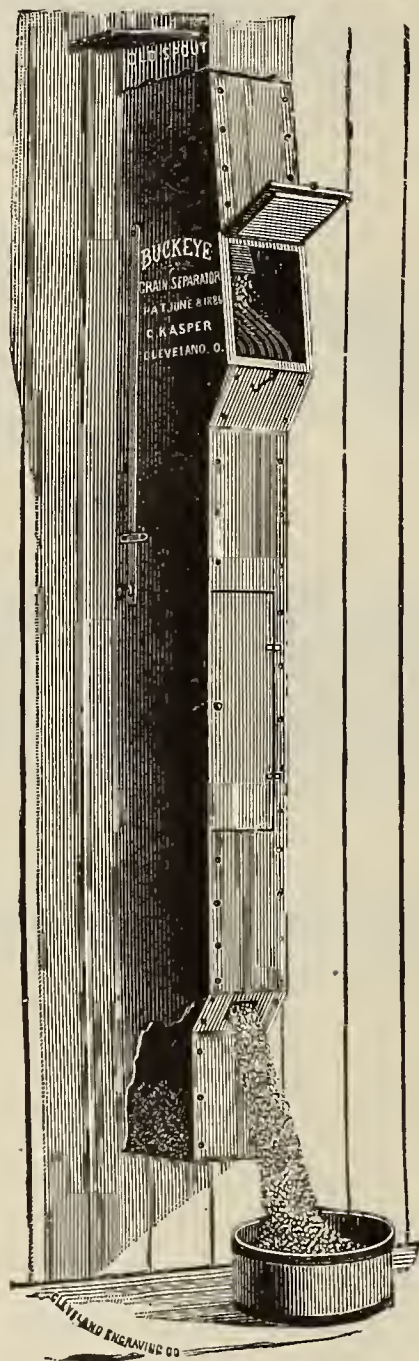
unloading after car has been placed in position to unload.

Grain consigned to points beyond Chicago to the order of or notify a firm at Chicago, to be stopped at Chicago for inspection (which latter notation must be made on the way-bill), may be delivered to connecting lines free of switching charges, provided order is received within twenty-four hours after 1:30 P. M. of the day of arrival, if inspection is made before 10 A. M. of the day of arrival. If inspection is not made before 10 A. M. the twenty-four hours will be counted from 1:30 P. M. of the following day. A minimum switching charge of \$2 per car will be made for deliveries, orders for which are received later than provided for in the foregoing rules.

Delay beyond hours specified in the above rules will be subject to a car service charge as provided for by the rules of the Car Service Bureau.

KASPER'S SELF-ACTING GRAIN CLEANER.

The new patent grain cleaner, illustrated herewith, is exceedingly plain and simple in its mechanism, and has nothing about it that is complicated or liable to be broken or displaced. The casing shown is a wooden



frame, having a series of screens arranged in a zig-zag channel, extending from the top of the case to the discharge spout below. Between the sides of the case and the grain channel are open spaces through which the dust and dirt are thrown off by the screens and separator and pass to the bottom of the case. The coarse dirt and trash are carried off by the separator at the top, which receives the grain from the bin or hopper above. The entire operation is by the force of gravity in the falling grain itself. It is claimed that by dashing from screen to screen in its descent, the grain completely scours itself of all impurities and passes out of the spout thoroughly cleansed and purified. The foulest oats, it is said, will be cleansed in a single passage through the machine.

The cleaner illustrated is the size used principally for cleaning oats in barns. A larger size is made especially for grain elevators. Any further information can be obtained by writing to O. C. Cleave & Co., Chicago.

CHEAP GRAIN STORAGE.

Mr. C. F. Shedd of the late firm of C. F. Shedd & Co. of Fairfield, Neb., which was the first grain firm to ship from Fairfield, Edgar, Davenport and Carleton, Neb., has recently perfected a system of cheap storage for grain by which he claims to be able to save 50 per cent. in the cost of building corn cribs and grain bins.

His inventions relate to a portable dump and elevator for filling high cribs and bins with grain. A portable drag belt or conveyor and elevator for drawing the grain from these cribs and bins to the cornsheller, wagon or ear. A portable wagon scale and office. A portable elevator for transferring grain from one ear to another, or from a ear to a bin or a bin to a ear. A portable grain bin holding 500 bushels. To improvements in cylindrical shaped stationary and portable cribs, and roofing the same. To improvements in air-tight bins for treating hot and fermented grain, restoring it to a merchantable condition. Also for storing shelled corn which is not thoroughly cured, and cannot be stored in common bins or elevators without great risk of heating.

He claims his system will reduce the cost of building cribs and bins fully 50 per cent. The capacity of these cribs and bins will range from 1,000 to 3,000 bushels for cribs, and as high as 10,000 bushels for bins for small grain and shelled corn. These corn cribs are portable. The smaller cribs and bins will be filled by hand, the larger ones by a portable dump and elevator.

The item of shrinkage in filling these bins and drawing the grain from them is an important factor in addition to that of economy in labor. These bins are built on the circular plan, with center ventilator and roof supporter.

Mr. Shedd's plan is to store and hold a portion of each crop, especially when grain is cheap, in the country where the cost of storage is merely nominal compared with city storage.

He claims there are several advantages in storing grain, more particularly corn, in the country. First, in securing the grade. Second, a less shrinkage. Third, a saving on insurance. Fourth, a saving of 4-5 in storage. Fifth, in railroad rates, as spring and summer rates can always be obtained for less than fall rates during heavy receipts. Sixth, interest is saved on freight. Seventh, in case of failure of crops in any locality grain can be shipped direct to that locality, or if a home failure, as we have experienced the past year, we can draw out this grain in store. Eighth, the blockade problem, which tries all Western roads when large crops are to be moved, will to a large extent be saved, when a portion of the early receipts can be stored and held over.

The *Herald* of Fairfield, Neb., says: "We have taken pains to carefully investigate Mr. Shedd's devices, and while they save money, they will prove a great convenience, the design being to store grain where it is raised and move it at the most convenient time, and when it can be most profitably done."

"The advantages arising from cribbing corn can safely be figured as follows, as compared with shipping the same corn and storing in city elevators:

	Cents.
1. Carrying charges for season (Chicago).....	4
2. Difference in grade at purchase and sale.....	3
3. Difference in rate, fall and spring shipments.....	1
4. Interest on freight.....	1
	9
Add to this the advantage of the Shedd system in reduced cost of building, storage and saving in shrinkage and labor in handling.....	2
And we have a total of.....	11
in favor of storing grain in the country.	

"These figures are not empty fancies, they are facts; and if 11 cents can be saved per bushel on grain, that means a clear gain of \$2 to \$5 per acre on corn, or on an average crop of about 80 acres, from \$150 to \$400."

Mr. Shedd is now preparing to organize a company to manufacture the machines and devices necessary to introduce his system.

The imports of merchandise into the United States during the four months ending in April were valued at \$287,168,190, against \$265,554,570 and \$262,395,045 for the corresponding periods of 1890 and 1889 respectively.

The first earload of new California wheat was shipped May 25 to Port Costa via the Southern Pacific. It was sold by sample at auction in San Francisco two days later to the Del Monte Milling Company at \$2.025 per cental.

MAINTAIN OUR SYSTEM OF MOVING CROPS.

In the last annual report of the Chicago Board of Trade, advanced copies of which have been received, Secretary Geo. F. Stone says:

"The system, with all its safeguards, by which the great crops are moved and realized upon, and by which a ready market is secured, regardless of the volume offered and without depreciation of values, must certainly call forth nothing less than admiration. This system, which has created a constant demand from the great grain markets of the world, prevents congested markets, enabling the West to send her grain to market without its being subject to the limitation which the consumptive demand would impose. It permits the agriculturist to sell when-

condemns, and utterly fail to comprehend the vital relation which exists between contracts made for future delivery of goods and the activity and growth of trade. Should this measure become a law its friends would be the first to cry out against it and would clamor for its repeal.

Upon this subject the board of directors of this Board adopted the following resolution:

Resolved, That the so called Butterworth bill, now pending in Congress, is emphatically bad, and would cause irreparable injury to the business and agricultural interests of the country.

This resolution was introduced at the last meeting of the National Board of Trade, and adopted by that body without a dissenting vote.

This is not the first attempt to regulate by law the cur-

objects of the Board in this language: "To maintain a commercial exchange; to promote uniformity in the customs and usages of merchants; to inculcate principles of justice and equity in trade; to facilitate the speedy adjustment of business disputes; to acquire economic information, and, generally, to secure to its members the benefits of co-operation in the furtherance of their legitimate pursuits."

A WHEAT BLOCKADE ON THE COAST.

The wheat crop of Oregon and Washington was so surprisingly large last year and the producers marketed it so fast that the railroads were unequal to the task of hauling it away as soon as was desired, so a wheat block-



SCENE ON THE PACIFIC COAST DURING THE WHEAT BLOCKADE LAST YEAR.

ever prompted to do so, either by his interest or necessity, without compelling him to make immediate shipment. This system was devised and is maintained in the interest of the farmer, and has brought into existence the chief grain markets of the world. Without it the great West would not have been developed, and the trans-Mississippi states would not have been formed. It provides the farming communities with ready money, which in turn finds its way, through the country store, to merchants in great centers of trade, and more than any measure keeps the complex machinery of business in harmonious activity. To withdraw or destroy it would be fatal to the success of the grain and cotton interests, check the circulation of money, lead to selling general merchandise on long credit, increase business hazards, advance rates of interest, cripple enterprise and prepare the way for financial disaster. The Butterworth bill is aimed at the destruction of this system. Those who advocate its adoption are unmindful of the benefits of the system which it

rents of trade. About two hundred years ago Lord Kenyon held that buying grain and breadstuffs and holding them for a rise, for speculative purposes, was against public policy and immoral, and he therefore, as Lord Chief Justice of the King's Bench, adjudged all such transactions void.

Says an eminent legal authority: "The King's Bench, with all its judicial terrors, might as well have undertaken to change the course of seasons as to have checked enterprises of a speculative character in breadstuffs, and such a clamor was raised about the ears of Lord Chief Justice Kenyon that it was not long before his decisions were relegated to the limbo of overruled cases, and are quoted to-day, not as authority, but as demonstrating how far and how absurdly wrong even a great judge may possibly go."

The declared objects of the Board are utterly hostile to fictitious and gambling transactions and corners. The preamble of its rules and by-laws expresses the general

ade occurred at many stations, and scenes like the one given herewith were common along the railway lines. Especially was this the case at stations in eastern and southeastern part of Washington.

The sacked grain was piled up near the buyer's elevator, and in most cases the pile was inclosed with a light frame structure to protect it from storms. Since the last crop was harvested a number of elevators have been erected and the railroad companies have increased their carrying capacity, yet it is predicted (and the prospects are that the prediction will come true) that a greater wheat blockade than ever will occur.

Yields of wheat are obtained in this district, reports of which the Eastern farmer will not believe. Farmers frequently have a yield of over 100 bushels to the acre, and 50 to 60 bushels is quite common. Recent reports from one county in the Pelouse country state that prospects are good for a crop of over 15,000,000 bushels in that county alone.

INSPECTING FLAXSEED FOR SHIPMENT BY LAKE.

The system of sampling as conducted under the regulations of the Chicago Board of Trade for the inspection of flaxseed is the practical application of the law of average, says Inspector Stevens. This is most distinctly shown in the department of inspecting from elevator to vessel, when clean cut samples of equal measure are taken from numbers of known quantities and intermixed. The outfit of a flaxseed inspector on vessel duty consists of a six-foot grain tryer with plunger, a large bucket, sample bags and tags.

After the flaxseed for shipment has been "run up" in elevator and deposited in shipping scale hopper, and prior to being weighed, the tryer is pushed endwise through an opening to the center of the mass, the plunger is withdrawn, the tube fills and is withdrawn, and the contents poured into the bucket. When five samples have been drawn from that number of drafts, they are intermixed and a three-pound sample bag full is taken up and the remainder returned to the hopper. When the second sample bag is filled, making ten samples in all, and the bucket emptied, the contents of both bags are poured into the bucket, and when thoroughly intermixed one bag is taken up, tied and tagged. The tag sets forth the date, name of shipper, elevator, vessel and grade, also the number of drafts represented and the number of the scale on which they were weighed. The samples of each grade and those from each elevator are analyzed separately.

To prepare an elevator sample for analysis a calculation is made as to the number of ounces to be taken from each sample bag to make a total of 96, which is passed through an effective and novel process of mixing, which prepares it for the analysis. After the several tests have been made, the average impurity of the cargo is ascertained by mathematical equation.

A CALCULATION AND A RECORD.

A somewhat novel and interesting calculation has been sent us by Mr. S. Howes of Silver Creek, N. Y., manufacturer of the well-known Eureka grain cleaning machinery. It is interesting because it supplies a means of evidencing how the grain trade is a "big thing," and indicates also that mechanical skill is ever ready to respond to demands of legitimate commercial enterprise or necessity. It is well known that Mr. Howes builds grain separators of extraordinarily large capacity, but it is quite generally believed that cases are rare where such machines can be employed with advantage or profit. Five years ago this was, perhaps, the case, but during the past four years Mr. Howes has sold just 119 Eureka Separators, the combined capacity of which is 1,933,333,400 bushels of wheat per year, or more than three times the biggest annual wheat product of the entire country. But here is his letter:

Editor American Elevator and Grain Trade:—A few days ago occasion arose to look into our record of separator sales, and one of my clerks, presumably to pass his time profitably, made and handed to me the calculation I subjoin. It may interest you or some of your readers, as it shows in a most positive manner the radical advance which has taken place in the handling of wheat and other grains within a very brief period. I may say, in submitting this calculation, that prior to four years since not a dozen of these, my largest size of separators, were in use. Let me say further that within the past four years I have built and sold 81 of my Eureka Warehouse Separators, capacity of each 2,000 bushels per hour, and 38 Eureka Double Receiving Separators, capacity of each 2,400 bushels per hour.

Eighty-one Warehouse Separators, combined capacity 162,000 bushels per hour, 3,888,000 bushels per day, 1,216,944,000 bushels per year. This is equivalent to 270 carloads per hour, 6,480 carloads per day, 2,038,240 carloads per year; or nine trains of 30 cars each per hour, 216 trains of 30 cars each per day, 67,608 trains of 30 cars each per year.

Thirty-eight Double Receiving Separators, combined capacity 91,200 bushels per hour, 2,283,800 bushels per day, 716,394,400 bushels per year. This is equivalent to 152 carloads per hour, 3,648 carloads per day, 1,141,824 carloads per year; or more than 5 trains of 30 cars each per hour, 120 trains of 30 cars each per day, 37,560 trains of 30 cars each per year.

Assuming a carload of wheat to be 600 bushels, these 119 machines would clean up a train nearly $2\frac{1}{2}$ miles in length every hour; a train nearly 66 miles in length every twenty-four hours, and if they were run every working day in the year, they could clean up the contents of a train 20,658 miles in length. The wheat-growing capacity of the United States is large, but it is not so great as the wheat cleaning capacity of the Eureka Separators. Of course, in the foregoing calculation we have taken

the largest-sized machines in each class and rated each at its maximum capacity. Each machine, however, will work satisfactorily up to its rated maximum capacity.

DEATH TO CHINCH BUGS.

Prof. Snow of the Kansas State University has discovered the existence of a disease resembling cholera peculiar to the chinch bug, and which is easily propagated, and will doubtless eventually afford farmers complete relief from the destruction of their crops by this pest. During the past summer infected bugs were let loose in a bug-infested field. The disease spread so rapidly and was so fatal that the field was soon rid of the pests. Many farmers have made application to the professor for carcasses of the bugs which have died from the cholera.

Expert investigations recently completed in Chatauqua county, Kan., show that in every field where the bugs were subjected to infection those ravenous insects are dying by hundreds, and the wheat has been practically uninjured. One farmer kept some infected bugs through the winter, and found that they were as efficacious as ever. A farm cleared of the bugs last year shows no trace of the insects this season.

At the last session of the Kansas State Legislature an appropriation of \$3,500 was made to be used by Prof. H. F. Snow in furthering his experiments in chinch bug ex-



termination. About two years ago Prof. Snow discovered a fatal disease among the chinch bugs in some localities in Kansas, and he immediately began a series of experiments. So successful was he in spreading the disease, which he termed chinch bug cholera, that last season little damage was reported in Kansas from chinch bugs. During the past winter Prof. Snow has been carrying on his experiments by infecting fresh bugs received from different parts of the state. Just now the chinch bug is again making his appearance in the western counties, and infected bugs are sent out to the farmers. Diseased bugs are scattered throughout the fields, and the result is that in a few days all the bugs become diseased and die. The results so far this season have been highly satisfactory, and the indications are that the ravages of the chinch bugs will be of short duration. The chinch bug has always been the Kansas farmers' greatest enemy, and, unlike all other contagious diseases, all are anxious to spread chinch bug cholera through the state. Live, healthy bugs are secured and placed in jars with bugs that have died with the cholera, and in three days they are stricken and soon die. The sick bugs are sent out by the thousands from the station. The accompanying illustration shows an enlarged chinch bug with white threads issuing from its body and numerous other specimens in natural size, killed by the fungus.

In an article on the subject Prof. Snow says: "It was my belief that sick bugs would prove more serviceable in the dissemination of disease than dead bugs. I accordingly sent out a circular letter with each package instructing the receiver to place the dead bugs in a jar for forty-eight hours with from ten to twenty times as many live bugs from the field. In this way the disease would be communicated to the live bugs in the jar. These sick bugs, being deposited in different portions of the field of experiment, would communicate the disease more thoroughly while moving about among the healthy bugs by which they would be surrounded. This belief was corroborated by the results. The disease was successfully introduced from my laboratory into the states of Mis-

souri, Nebraska, Indiana, Ohio and Minnesota, and into various counties of the state of Kansas.

"Before the close of the season of 1890 it became evident that there were at least three diseases at work in our infection jars, the 'white fungus' (*Entomophthora* or *Empusa*), a bacterial disease (*Micrococcus*) and a fungus considered by Dr. Roland Thaxter to be *Isaria* or perhaps more properly *Trichoderma*."

Profs. Forbes, Burrill, Lugger and other entomologists have made similar experiments, and arrived at the same conclusion. No failures have been reported.

Bugs affected by *Entomophthora* or *Botrytis* are covered when dead with a whitish efflorescence, consisting largely of what is called the *mycelium* of the fungus, which sometimes is so dense as to wholly hide the victim from view. Prof. Lugger, writing about a field he had visited where the chinch bugs had this disease, said: "The fields invaded by the disease afforded upon close examination a truly edifying spectacle to those not interested in the welfare of chinch bugs. They looked quite panic stricken, and moved about in a slow and dazed way. The victims of the disease could be seen everywhere by the thousand; they had been slaughtered in all kinds of positions, but they were usually fastened to the blades and stems of the grass or to the leaves of young clover. All showed plainly that their last and strong determination in life had been to hold on as long as possible; their legs were firmly planted upon the substance where the bug happened to be; others had only their beaks inserted and were dangling by it free in the air. But all showed the characteristic white mycelium threads and spores of the disease."

SILVER AN AID TO INDIA'S EXPORT TRADE.

The average price of American wheat laid down in Great Britain was \$1 a bushel during 1889, while the total cost of India wheat was \$1.19. The London quotation of India wheat at the same time was 88½ cents per bushel. Mr. Ivan C. Michels, in a recent article, endeavors to explain this as follows: "As the Englishmen are not generally philanthropists, and merchants are not in the habit of selling such an important article as wheat at a loss of 30½ cents per bushel, the cause for such diversity in cost and returns must be looked for in the exchanges of Great Britain on India, or what is known to commerce as the Council Bills, issued by the Bank of England on the treasury of India, which for the fiscal year 1885-6, were just 33½ per cent. in favor of Great Britain."

"Strict laws compel the Bank of England to purchase all gold offered at a fixed rate, say £3, 17s, 9d. per ounce standard, the fact is proved that the Indian rupee has not varied in its purchasing power in India. Sir Robert N. Fowler, M. P., the London banker and ex-lord mayor, says that the effect of the depreciation of silver must finally be the ruin of the wheat and cotton industries of America, and be the development of India as the chief wheat and cotton exporter of the world."

"If the principal commercial nations of the globe will remonetize silver, it will be staple again, and England will have to pay for all the silver she must have for India \$1.29½ per ounce fine. Exchange on India will advance her Council Bills to two shillings from the present rate of 1s, 6d. per rupee, and India's wheat could not be laid down in Great Britain for less than \$1.20 per bushel, and as India wheat is inferior in quality, American wheat would again sell in England at from \$1.25 to \$1.30 per bushel, and our farmers will receive just 33 per cent. more for all the wheat they could raise."

The good prospects for a large crop of wheat have induced some estimators to predict a heavy harvest. It would be better not to count the chickens before they are hatched. Until the standing grain is threshed it will be exposed to many dangers, and will run the risk of being laid by windstorms, rain and hail, of being stunted by drouth, of being devoured by insect pests, of being destroyed by rust or smut, and of being killed by frost.

The small black beetle that has in recent years done considerable damage to corn in Illinois, is being investigated by Prof. Forbes, the State Entomologist, who says it is the same insect he described in his report to the State Board of Agriculture in 1883. He calls it the "brassy flea beetle," which made its first appearance in 1883. It passes the winter under dead vegetables, and begins to breed in June. So little is known of it that no suggestions can be made for its destruction.

COMMUNICATED

[We invite correspondence from every one in any way interested in the grain trade, on all topics connected therewith. We wish to see a general exchange of opinion on all subjects which pertain to the interest of the trade at large, or any branch of it.]

HAVE MOVED.

Editor American Elevator and Grain Trade:—Please change the postoffice address of our AMERICAN ELEVATOR AND GRAIN TRADE from Randolph, Minn., to this place, as we have moved our headquarters. We do not wish to miss a single number of your journal.

Yours respectfully, E. M. WATERBRIDGE & Co.
Northfield, Minn.

IS ACCEPTABLE.

Editor American Elevator and Grain Trade:—Inclosed we hand you \$1 to renew our subscription to the AMERICAN ELEVATOR AND GRAIN TRADE. We presume a renewal is as acceptable to you as an assurance that your journal suits us as a half-column article would be.

Yours very truly, NORTH STORMS & Co.
Evansville, Ind.

WILL BUILD.

Editor American Elevator and Grain Trade:—Please change the address of my AMERICAN ELEVATOR AND GRAIN TRADE and American Miller to Clarksville, Butler Co., Ia., as I have moved there. Under the firm name of Rait & McGlashan will we build a 30,000-bushel steam elevator at that place.

Yours respectfully, GEO. B. RAIT.
Everly, Ia.

CAN NOT KEEP HOUSE WITHOUT IT.

Editor American Elevator and Grain Trade:—Inclosed please find \$1 for which send me the AMERICAN ELEVATOR AND GRAIN TRADE for one year. I thought I could get along this year without it, but find I can not keep house without it. Please send me a sample copy of the American Miller, the milling journal issued by your company.

Respectfully, GEO. H. MOORE.
Cerro Gordo, Ill.

CHANGE OF FIRM NAME.

Editor American Elevator and Grain Trade:—The name of our firm has been changed from Harper, Fricke & Co. to The Harper Fricke Grain Company. Under its present management the firm is composed of Perry B. Harper of Iantha, Mo.; George W. Fricke of Springfield, Mo., and A. J. Vanlandigham, secretary of the Kansas City Bureau of Transportation, the license to the corporation having been granted Thursday, April 30. Under the new order of things we expect to materially expand our facilities and to do everything in our power to merit continuance of the confidence placed in us.

Yours respectfully, HARPER-FRICKE GRAIN CO.
Iantha, Mo.

CAUSE OF THE DIFFICULTY AND THE REMEDY.

Editor American Elevator and Grain Trade:—The excitement over the supposed wheat stealing in Duluth has subsided and left on the minds of the public the rather vague impression that something was wrong. The real cause of the difficulty is understood by comparatively few persons. The mysterious disappearance of wheat had been going on for months until finally cars and veses were loaded at night and gotten out of the way before daylight. The wheat so shipped was not inspected and the irregularity of the proceeding was winked at by the higher authorities. Had the fact been published that this was damaged grain there would have been a panic in the market. Two million bushels of heated wheat were at one time in elevators "E" and "F" and the owners of the elevators had to get it out of the way quietly.

The question has been asked: "Is there any way to avoid this disaster in the future?" There is only one way. The grain must be turned over occasionally and exposed to the air; this is especially the case with spring wheat. After twenty-five years of experience we are convinced that the blast fan and conveyor will do the work perfectly. The belts will not do it because they move the grain in a solid mass without turning it over

and allowing the air to escape. We can show more than 200 elevators in this country, using the grain conveyor, that are turning over and cooling grain at a cost of 10 cents a car; there has never been a bushel of heated grain in one of these houses. This fact alone answers the question.

Yours truly, CHASE ELEVATOR CO.
Chicago, Ill.

HAVE ERECTED A NEW ELEVATOR.

Editor American Elevator and Grain Trade:—W. F. Gilliam has just completed a new elevator of 50,000 bushels' capacity, Henry Keiser of Bloomington, Ill., furnishing the plans and machinery for the same. A very large acreage has been sown and a heavy yield of wheat is promised us in this (Saline) county. Cutting will commence in about two or three weeks.

Yours truly, G. M. FOWLER.
Gilliam, Mo.

SPEAKS FROM EXPERIENCE.

Editor American Elevator and Grain Trade:—I have selected my location, which is at Williams, Hamilton Co., Ia. I immediately commenced to put things in readiness for the new crop. We will do business at Williams under the firm name of Vorhes Bros. It would seem by the great number of letters I have received in response to my advertisement in your journal that your publication has a wide circulation.

Yours truly, E. D. VORHES.
Cushing, Ia.

TAKING ADVANTAGE OF FLUCTUATIONS.

Editor American Elevator and Grain Trade:—A brother grain dealer, whose office is not a thousand miles from Chicago, not long since told me of a scheme by which he made a good profit. He is in the grain commission business, and buys large quantities of corn and oats from me, and although he is a sharp trader, he has always dealt honorably with all customers.

His method, as he explained it to me, is the following: When he receives an order from an Eastern buyer, who is in many cases a miller, for six cars of shelled corn, he wires me for six cars of corn containing 800 bushels each; and if the price goes up he wires me for six more cars containing 500 bushels each, and ships them to the buyer at a fair profit. We will suppose that the commission man buys at 50 cents a bushel; then if the price of corn goes up, as he expected, he sells the six 800-bushel cars to another party, at an advance of say 10 cents a bushel, making a profit of \$480 on the sale. On the six 500-bushel cars he lost 10 cents a bushel, because he bought at 60, and had to sell to the Eastern buyer, who ordered when the price was 50 cents, and therefore lost \$300. As he made \$480 on one lot, and lost \$300 on the other, he made a net profit of \$180.

It makes no difference whether the market goes up or down, he gets his profit just the same, as will be seen from the following: If on receipt of the order he judges that the price is liable to fall, he at once buys six cars of corn, each containing 500 bushels, and after the market has declined buys six cars, each containing 800 bushels. He disposes of his purchases as follows: Six cars, 3,000 bushels, bought at 60 cents, sold at 50 cents, loss \$300; six cars, 4,800 bushels, bought at 50, sold at 60 cents to the Eastern buyer, profit \$480. The loss on one lot is \$300, and the profit on the other \$480, and the net profit \$180.

In order to profit by this method, good judgment as to the probable rise or fall in prices is necessary. Should corn decline 10 cents per bushel when he expected it to rise, he would not make any profit; but even then there would be no loss, as he would simply send the buyer the six 800 bushel cars which he had purchased with the expectation of higher prices. My friend, the commission man, certainly profits by his system, and if any one is the loser by it I do not know who it is. Of course the Eastern grain buyer sometimes complains that he never profits by the fluctuations in prices.

I would like to hear the opinions of my brother grain dealers regarding this plan. Can it be improved upon? Has any one a better plan? Are the Eastern buyers justified in complaining? I think not.

Yours most respectfully, CENTRAL ILLINOIS.

The incendiary who was arrested for burning the elevator at McCool, Neb., committed suicide in jail May 9.

Three grain elevators in Massachusetts burned in 1890, the losses on which amounted to \$35,730, and the insurance \$30,000.

MANITOBA WHEAT AT DULUTH.

The present system of handling bonded wheat at this point differs from that of previous years, and is little understood even by the grain men outside of Duluth. The Northern Pacific road gives a general bond of \$300,000 for the proper handling of grain going through from the Canadian west to Sarnia, Montreal or other lower Canadian points via the Duluth lake route. A number of bins in elevator D are bonded, without charge by the elevator company for the profit of handling the business. When bonded cars arrive closed by the seal of the Canadian Government and also of the railroad, the United States deputy collector of customs takes them in charge, orders the seal broken, oversees the handling, and when the grain is finally placed in the bin, places his seal thereon. When the owner desires to ship any of the grain, the deputy customs collector breaks the seal, and when the desired amount is withdrawn, again seals the bin, but when the bin is empty it is left open and may be used for any grain. In all these operations the United States deputy collector is accompanied by one of the Canadian custom officers stationed here, whose presence is a matter of international courtesy, as he has no authority so far as the handling is concerned. His certificate, however, is of value at the Canadian points to which the grain is destined, and his seal on cars containing goods in bond for Manitoba greatly expedites traffic at the Canadian boundary line. The bonded grain is not inspected under our law, but goes through under the grades established in Manitoba. This system of a general instead of a special bond is a great convenience to shippers and holds the business for the American route, but cuts off much of the fees formerly received by the customs collector. The whole bonding system has thus been simplified in a spirit of international comity and for the business interests of both sides of the line.—*Duluth Herald*.

FOREIGN GRAIN SAMPLES.

Mr. J. Colin Vincent, who has recently returned from a trip to Europe, has brought back with him samples of wheat and corn, representing the various kinds with which this country has to come in competition. These samples were shown on the floor of the Exchange and excited a good deal of interest among the members. Apart from the natural curiosity to see the products of distant lands, such exhibits are educational, letting the dealers in our own products see the character of goods they have to compete with. There is a widespread and often outspoken opinion among our people that our wheat, etc., is the best in the world, and ought to command the highest price, whenever offered for sale in competition with others, but a dispassionate comparison with authentic average samples from other countries may, and often does, prove a heavy shock to that opinion, particularly when questions of cleanliness, freedom from mixture, and the presence of objectionable foreign stuff, weeds, etc., are considered. The sooner our farmers recognize the importance of more care in the selection of seed, and preparing for market, the sooner will they find a greater readiness to buy on the part of foreigners.—*Baltimore Journal of Commerce*.

HOW THE PRICE OF OATS WAS BROKEN.

A few weeks ago the price of oats advanced to such a high pitch in this market that consumers brought their inventive faculties into play, to see if they could not find a substitute, and the result certainly proved successful, as they discovered that by cutting up hay and mixing it with bran and other mill feed into a kind of mash, it served as an excellent food upon which the horses thrived almost as well as if fed upon oats. The experiment soon became general in the large stables, and such was its effect in decreasing the consumption of oats that dealers were nonplused to account for the falling off in their orders, and they soon found out that in order to make sales they would have to accept lower prices. A few weeks ago No. 2 Ontario oats sold as high as 60 cents per bushel of 34 pounds in this market in car lots, and in a few instances even higher figures were obtained, while 58 cents was freely paid for Manitoba mixed oats. Owing to the persistent falling off in the demand, however, for reasons above referred to, prices have since declined.—*Montreal Trade Bulletin*.

Queries and Replies.

Questions and answers are inserted under this head free of charge, and all are invited to avail themselves of this column.

No. 58. Telegraph Cipher.—In reply to "Dealer" in "Queries and Replies" No. 54 I will say that the "Underwood Telegraph Code" was published by Little & Becker at 210 and 212 Pine street, St. Louis, Mo. It is now out of print.—J. H. WILKES & Co., Nashville, Tenn.

No. 59. Shrinkage of Wheat.—Will some reader of the AMERICAN ELEVATOR AND GRAIN TRADE please inform me through its columns what is the usual allowance made for the shrinkage of wheat stored in elevator bins for a year? Does the depth of the bin make a difference in the amount of the shrinkage? Does wheat shrink much after the first six months following harvest?—BUCKEYE.

No. 60. Glueing Belts.—In answer to No. 55 of "Queries and Replies," I give my method of splicing belts as follows: Soak equal parts of glue and isinglass over night in water enough to cover, then boil together. Apply the glue to the parts to be joined, and press together at least four hours. The ends of the belt should be neatly scarfed and tapered, so that the splice is not thicker than the belt. No pegs or rivets will be needed.—C. R. C.

No. 61. Delivery of Grain Sold.—We would be greatly obliged for some information on the following in the columns of the AMERICAN ELEVATOR AND GRAIN TRADE: If a Pennsylvania miller should buy a car of grain from a firm in Ohio, and the price of wheat having advanced considerably, the seller should refuse to deliver it, what recourse would the buyer have? Could buyer get an attachment for a car of grain shipped into Pennsylvania by said seller with bill of lading indorsed to some other party and attached to sight draft?—A. C. McCUNE & SON, Dawson, Pa.

No. 62. Petroleum as Fuel.—Birkhans & Kuenzels ask in the May number for information as to the use of petroleum as fuel. One pound of petroleum will evaporate twenty-two pounds of water, and one pound of coal will evaporate about sixteen pounds. Form of boiler and kind of coal have much to do with the result, however. Dry wood evaporates seven and one-quarter pounds of water per pound of fuel, so that in order to have the same economical value it must be purchased at one-third the cost of natural oil. The large bulk and cost of handling are disadvantages that oil does not possess. Wood at \$3 per cord is equal in cost to natural oil at \$4 per ton.—J. L. B.

No. 63. Information on Storing Grain.—We are erecting a 20,000 bushel grain elevator at this place to use in connection with our mill, and also to store grain for farmers and do a general elevator business. We will combine in the same building a wareroom 30x40, in which to store the products of our mill. As we are not acquainted with the rules governing elevators, we want some information on the subject. If a farmer brings in his crop of wheat from the thresher to be stored, subject to his orders, is it run through the receiving separator before being weighed, and, in weighing, what discount, if any, is made for shrinkage? What charges are customary for storing grain in this way? Is the wheat weighed before or after going through the separator? How much discount is made for shrinkage and what kind of a receipt is given for it? If you can give us the customary rules on these points you will very greatly oblige—BOYD BROS., Irvington, Ky.

No. 64. Granary.—In answer to "A. B. C." asking in No. 53 of "Queries and Replies" in the May number of the AMERICAN ELEVATOR AND GRAIN TRADE for a plan of a large granary to store grain in over the winter, I advise him not to build a temporary structure, as the expense would not warrant it; but to put up a regular elevator, which would give more satisfaction and be of use every year. If, however, the storehouse is to be used for a few months of one year, then it ought to be as cheaply built as possible, and still protect the grain from the weather. In order to be cheap, no machinery should be used for handling the grain; but, if possible, build it into a hill, so that wagons can dump into the bins. Shoveling

must be resorted to when shipping out. It is needless to say that the floor should be tight, to keep damp out and to keep the grain from being wasted. A good roof is also necessary. Unless the circumstances are very unusual, it is hardly worth while to go to the expense of building even the cheapest kind of a granary to be used just one season.—BUYER.

No. 65. Insects in Grain.—I have read many articles suggesting the use of bisulphide of carbon as a means of exterminating insects in grain, but I have found nothing practical. Will some reader of the AMERICAN ELEVATOR AND GRAIN TRADE tell me just how it should be used to secure the best results? How much should be used? Is five pounds enough for a wheat bin 20 feet square and 20 feet high? How much does it cost at wholesale? I would like to have the address of some makers of bisulphide of carbon. I was troubled last year with bugs or beetles, but since the warm weather came on large numbers of them have made their appearance. Worms and grain weevils also infect the bins. I will be thankful for answers to the above questions.—SANGAMON.

CHICAGO FLAXSEED INSPECTION RULES.

The regulations adopted by the Chicago Board of Trade for the inspection of flaxseed are as follows:

Section 1. All flaxseed inspected shall be classed according to quality and condition, as follows:

No. 1.—Flaxseed that is choice or prime, as also the same moderately intermixed with field-damaged seed, dry, sweet and free from mustiness, and having weight of not less than 50 pounds to the measured bushel of commercially pure seed, shall be No. 1.

Rejected.—Flaxseed that is damp, immature, field-damaged or musty (and yet not to that degree as to be unfitted for temporary storage) shall be rejected.

No Grade.—Flaxseed that is warm, moldy, very musty, wet (or otherwise unfitted for storage), or having weight of less than 47 pounds to the measured bushel of commercially pure seed, shall be no grade.

Sec. 2. In sampling and inspecting flaxseed received in cars in bulk by railroad, a geared screw sampler shall be passed down through the seed at not less than seven points, equally distributed. At each point an equal quantity of seed shall be taken, aggregating three pounds, which shall be deemed an average sample of carload. When car is inspected, cards in duplicate shall be written stating the result—the one tacked to grain door of car, the other attached to sample. Provided always, should the car be so unevenly loaded, either as to quality or impurity, as to leave a doubt in the mind of the inspector as to correctness of sample, he will not card the car, but note the fact and report to consignee.

Sec. 3. When inspector receives notice to inspect flaxseed to or from bags, he shall proceed as follows: As the bags are filled or emptied, he shall take from each bag the same quantity. The samples so taken shall be intermixed and three pounds taken therefrom, which shall be deemed an average sample of lot.

Sec. 4. The inspection of flaxseed from elevator or warehouse to lake transportation shall be made by passing a grain tryer of suitable length through each draught after the seed has been elevated to shipping scale hopper to be weighed, and drawing therefrom at each filling of hopper an equal quantity. From every ten samples so drawn an average sample of three pounds shall be taken. On completion of shipment from any elevator or warehouse, an equal quantity of flaxseed taken from the accumulated three pound samples, aggregating six pounds, shall be considered an average sample of shipment from that elevator or warehouse.

Sec. 5. The inspection of flaxseed from elevator or warehouse to railroad transportation shall be made by drawing with grain tryer samples from eight points equally distributed in car, and taking from each an equal amount, aggregating three pounds, which shall be considered a legal sample.

Sec. 6. To test flaxseed, one pound of average impurity and quality shall be taken from the sample to be tested, and the impurity or foreign matter therein shall be removed as near as practicable by the use of two sieves, one with meshes 3x16, the other with meshes 16x16. The per cent. of impurity and weight per measured bushel of the commercially pure seed shall be determined by the use of proper testing scales. The impurity shall be returned to the flaxseed, which shall be enveloped and tagged with the result of test and numbered to correspond with the records and kept on deposit sixty days.

Sec. 7. The inspector at the date of inspection shall issue a certificate of inspection setting forth the grade (if rejected or no grade, the reasons why), per cent. of impurity, weight per measured bushel and fees. Also the name of railroad or vessel by which either received or shipped, the number and initial of car, and the number of gross bushels shipped from named elevator or warehouse.

Sec. 8. The inspector shall put on 'Change at the first session of each day, week and month a tabulated statement showing in detail and totality as follows: The daily, all inspections of flaxseed since last report; the weekly, the amount of flaxseed in store; the monthly, the

inspected receipts and shipments during the month last past.

Sec. 9. On notice from any elevator firm that they are about to receive from a certain railroad flaxseed for storage, the inspector shall daily in detail report to said firm all flaxseed inspected on said road. The inspection of all flaxseed shipped from elevator shall also be reported in full to elevator office.

Sec. 10. The inspector shall lay before the Board of Directors not later than the second Monday after the second day of January each year, a tabular statement of the entire inspected receipts and shipments of flaxseed the preceding year ending Dec. 31, with such information as may be of interest to the Board. Also a financial report showing the receipts and disbursements of the office.

Sec. 11. Any member of the Board of Trade interested shall have the right of appeal from the decision of the inspector to the committee on flaxseed inspection, by giving notice in writing and paying to the Secretary of the Board \$5 for each and every case appealed. If the inspection is sustained, the \$5 shall be paid to the committee; if not sustained, then to be returned. If practicable, the committee shall examine the seed upon which appeal has been taken. If not practicable, the inspector shall furnish sample taken by him.

Sec. 12. The Board of Trade in establishing the regulations for the inspection of flaxseed and appointing an inspector thereof, assumes no liability or responsibility for errors in judgment or otherwise on the part of the inspector.

Sec. 13. The fees for inspecting and certifying flaxseed shall be as follows: For each car or part of car 75 cents; for each lot in car divided by bulkhead 50 cents; for each 1,000 bushels from elevator or warehouse to lake transportation 75 cents; for each two-bushel bag 1/2 cent; for each four-bushel bag 1 cent; for each wagon load 16 2/3 cents.

A SATISFIED FARMER.

A correspondent of the *Michigan Farmer*, writing from Parma, Mich., says: 'I wish to relate my experience in mixing wheat. My buyer says to me: 'I have a bin of wheat that I fear will not quite grade up to No. 2, I want some of your No. 1 to mix with it to make it safe No. 2, and will give you more than the market price.' I am satisfied with my sale, the dealer did well, and the farmer that sold the No. 2 that might not have graded No. 2, although he did not get the highest price for No. 2, did well.

'Again: My dealer says, 'I can work in some of your No. 3 wheat. I have a bin of nice No. 2 which will take in some No. 3, and all will sell for No. 2 price.' He takes the wheat. I have done well, the buyer has done well, and the man that sold the No. 2 did not get less for his. Now these are facts. How is the farmer injured by the grade? The shipper buys by the grade; the miller for what he sees in it. I can't see who is injured by inspection.

'If there was but one buyer he would grade the wheat as he chose, and get it at his own price, grade or no grade. But as there is competition the highest price is paid. The buyer and grower are interested alike in prices. The miller will buy it as cheap as he can, regardless of grade, and for what he can grind out of it.'

KAFFIR CORN IN KANSAS.

D. P. Norton of Council Grove, Kan., says one bushel of Kaffir corn will seed twenty acres. It grows much like sorghum and needs the same cultivation as it and corn. The seed should be covered two or three inches deep. The foliage is simply immense, three times as much as sorghum or corn. It heads out like sorghum, but the heads are more compact and the crop of seed very much greater. It should be planted as early as corn and not later than May 1. There are two methods of harvesting: First, cut up when seed is ripe, with sled, and shock same as corn. It has to be cut very low to get all the fodder. Then we throw down the shocks and even up the heads in armfuls, hold them on a block and chop the heads off with an ax and reshock the fodder. The seed is threshed like any other grain. Some cut the heads off with knife before cutting up, and then cut and shock afterward, or turn in the cattle, same as corn fodder.

I may say that harvesting Kaffir corn is a very slow and tedious process, but the crop—a good one, too—is certain to be there, wet or dry, and if the harvesting is tedious, the crop will be a bonanza, if your corn is a failure; and it beats paying 50 cents a bushel for corn, or going without feed, if you have no money to buy. I am confident the harvesting may be done with a header, same as wheat, by enlarging the wheels of the header so as to get the sickle high enough. When this is done there will be more Kaffir corn than oats raised in Kansas.

Trade Notes.

The Bradford Belting Company of Cincinnati, O., suffered a loss of \$20,000 by fire June 1; fully insured.

When you pay more for the rent of your business house than for advertising you are pursuing a false policy. If you can do business let it be known.—*Franklin*.

The Cambridge Roofing Company of Cambridge, O., manufacturers of all kinds of steel roofing, have established a branch factory at Chattanooga, Tenn., with J. E. Annis, secretary and treasurer, in charge.

An advertisement is but an introduction. The goods once brought to notice must take care of themselves. Just in the same manner a social introduction is valuable, but not conclusive if the individual turns out to be worthless.

That a little life, energy and vim in the wording of your advertisements is just as necessary (often more so) as in the management of your business. Remember, a good advertisement works twenty-four hours a day. Do you do that?

Barrett & Record, the elevator builders of Minneapolis, Minn., have been awarded the contract for the carpentry, lathing, plastering, painting and glazing of the mines and mining building for the World's Columbian Exposition at Chicago. Their bid was \$100,000.

The New York *Sun* says: "Modesty is out of place in an advertiser. His business is to recommend his goods, and to put his advertisement of them in the most alluring and convincing form that occurs to him. If he habitually exaggerates, his customers will find him out in time, and will cease to be attracted by his advertisements; but habitual understatement is not required of him."

Here is an application of the universal instinct to deal with things familiar. Our best neighbors are our old neighbors; our truest friends are old friends, and the people we allow ourselves to trust to the fullest extent are those with whom we are in daily contact. In truth, we are strongly inclined to base confidence on familiarity. Any one who will acknowledge this human tendency will admit the value of methods designed to keep a firm's name prominently and permanently before the public.

The E. H. Pease Manufacturing Company of Racine, Wis., manufacturers of all kinds of mill and elevator machinery, report business as excellent, and consider the prospect very encouraging for a large season's trade. They have recently filed orders for several outfits of grain cleaning machinery, Hercules Car Pullers, steam engines, horse powers and outfits for power transmission, all for grain elevators, to parties in Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Dakota, Nebraska, and Kansas.

The Boston office of Westinghouse, Church, Kerr & Co. reports business as active. Their recent sales of the larger sizes of Westinghouse Engines include one 250 horse power compound to the Fairchild Paper Co.; one 100 horse power to Frank Jones, president of the B. & M. R. R.; two 75 horse power to the Olcott Falls Paper Co.; three 80 horse power compounds to Howland & Ellis for an electric railway in Burlington, Ia., and five 5 horse power, six 10 horse power, four 15 horse power, one 25 horse power, one 35 horse power, one 45 horse power, one 60 horse power, one 100 horse power, one 125 horse power, two 150 horse power, and one 200 horse power for a complete subdivided power plant in the Bleachery and Print Works of the Dannel Manufacturing Co. at Pawtucket. They are meeting an active demand for their new specialty, known as the steam-loop, having entered orders for a large number of systems from the Dannel Manufacturing Co., Flint and Pocasset Mills at Fall River, Forest Paper Co. of Yarmouthville, Me., the Grosvenor Dale and Peace Dale Mills, Woonsocket Rubber Co. and others.

The Jeffrey Manufacturing Company, whose success in the manufacture of mining machinery has been so remarkable, have opened an office and salesroom at 48 South Canal street, Chicago, where they will keep on hand a large stock of sprocket wheels and a full line of roller and detachable chain belting, and all their special appliances for the rapid handling of materials either in package or bulk. Their specialties include all kinds of conveyors and elevators for handling coal, ores, grain, stone, coal pillars and railroad coaling stations. Their detachable chain belt will fit any standard make of wheels. The

Jeffrey Drill and Coal Mining Machines, operated either by electricity or compressed air, are pronounced by mining engineers to be the best machines yet devised for the purpose. The shops from small beginnings now cover five acres, and owing to the rapid increase of their business they have recently purchased three acres adjoining their works, on which during the coming summer they will erect additional shops. Mr. John H. Gregg, who has a wide experience in their special line, is the engineer in charge of the Chicago branch.

GRAIN GROWING NOT DECLINING IN RUSSIA.

The assumption, so often stated or hinted, says Statistician Dodge, that the cereal production of Russia is declining, is evidently not correct. Comparing with the wheat product of the years 1870 and 1872, the average of which, as officially returned, was nearly 194,000,000 bushels, the average of seven years, of which official reports in detail have recently been published, is about 227,000,000 bushels, an increase of 17 per cent. This estimate is not inclusive of Poland or Finland. This should be considered a reasonably fair present average, as three of the seven crops were quite poor, one only 163,000,000 bushels. That of 1888 is the largest, reaching nearly 296,000,000 bushels. The annual fluctuations are so wide that extreme caution should be exercised in making sweeping deductions from the records of too short a period.

The following table is a rendering of official estimates of wheat production of seven years—chapters converted into Winchester bushels.

Years.	Winter wheat.	Spring wheat.	Total.
1883.....	54,788,053	172,004,515	226,792,568
1884.....	79,861,622	187,581,242	267,442,864
1885.....	77,228,474	100,855,926	178,084,400
1886.....	40,267,325	123,187,948	163,455,273
1887.....	98,881,512	179,816,405	278,697,917
1888.....	110,699,919	185,011,574	295,711,493
1889.....	41,742,626	136,740,826	178,483,452
Average.....	471,924,219	155,028,348	226,952,567

The winter wheat is less than a third of the product, or 31.7 per cent., with annual variations from 23.3 per cent. in 1889 to 43.4 per cent. in 1885. The proportion of winter wheat in Russia is about the same as that of spring wheat in the United States.

From the scanty data of 20 to 30 years ago it appears that the aggregate of all cereal crops of that period ranged from 1,400,000,000 to 1,600,000,000 bushels. From a recent official publication by the Russian Government, the chapters being rendered into Winchester bushels, the aggregates are: For 1886, 1,726,047,603 bushels; for 1887, 1,965,279,284 bushels; for 1888, 1,874,055,620 bushels; for 1889, 1,469,939,984 bushels—a four years' average of 1,758,843,124 bushels. Taking the main cereals, rye, wheat, oats and barley, the average of these four recent years is 1,594,000,000 bushels, in comparison with 1,500,000,000 bushels reported for 1870 and 1872. The average for rye, the principal bread grain of Russia, is 666,000,000 bushels, showing that the product of rye has increased even if the assumed reduction in area is accepted. The product of 1887 equals 744,192,075 Winchester bushels, which is probably the largest cereal crop ever produced in any country, excepting only our maize crops, and that of oats in 1889.

Russian wheat supplies have long been an enigma to commercial writers. How a nation which is only second in production in Europe, and fourth in the world, could export (two years ago) 126,000,000 bushels while the United States exported only 88,000,000 bushels, was a marvel to the wheat trade. How, in the year following, a nation which claims to produce only half as much wheat as the United States, much less than France, and even less than India, could export 107,000,000 bushels, or within 2,000,000 of our exportation of 1889-90, is a mystery to agricultural writers. If there has been no material increase of area since 1870 when the exports were only half those of the present time, there must have been in the years immediately preceding, for exports have more than quadrupled since 1860, when there was about a thousand miles of railway mileage in the empire. During four years, 1886 to 1889 inclusive, the official returns of seed wheat sown make an annual average of 49,000,000 bushels, the exports 90,000,000 bushels, leaving only 90,000,000 bushels from those crops for consumption of 92,000,000 people. But the Russians are not wheat eaters; very few have any marked preference for it over the tenfold greater supplies of other grains. Twenty years ago railroad extension showed only about a third of the pres-

ent mileage, and as the surplus of wheat could not be exported, it necessarily helped to swell the general stock of small grains, the poorest of which were doubtless fed to animals, as was done in this country in former days, and is even at the present time, to a very limited extent, in the far West and on the Pacific coast. This surplus of good years, which could not be sent to other countries, was a prominent cause of the low price which prevailed forty years ago in Russia, which in some seasons was not more than a third of the highest rate of the past ten years. The following statement shows the increase of exportation in Russia by annual average for periods of five years:

Period ended Jan. 12.	Bushels.
1856.....	18,898,624
1861.....	19,288,793
1866.....	29,763,824
1871.....	45,671,008
1876.....	54,774,698
1881.....	65,780,327
1886.....	73,721,742
1890*.....	90,693,485

* Four years.

The increase is not so great quantitatively as that of the wheat surplus of this country, but in proportion to the size of the aggregate of annual production very much greater. In some degree as with maize in this country, which has no necessary complement of consumption, domestic requirement of wheat in Russia is somewhat variable; a fact which has nonplussed the calculators of commercial statistics and regulated prices of wheat in times of apparent scarcity.

Herein is a partial explanation of the fallacy which some have assumed to be a fair statistical deduction, that the Russian people are not so well fed as thirty or forty years ago. There is positive statistical evidence of advancement in the scale of civilization and in the standard of living. A larger proportion, probably, of the cereals is used in food, and a larger proportion of forage of various kinds contributed to the feed of animals. The same tendency exists in this country. It becomes an economic necessity as the country advances in population and increases its variety of products.

"PRIVILEGE" SPECULATION.

The sort of speculation that goes under the name of "privileges" has much to do in determining fluctuations, though privileges have little effect on prices, except for the period of their brief existence. These little trade scavengers got their first standing in the Milwaukee wheat pit, and since then they have spread until they are known wherever future grain or provision trading is known. They are not binding by legal enactment nor sanctioned by printed rules. The claims arising under them have no standing in courts nor before boards for commercial arbitration. They have a law of their own that is seldom broken, though outside of common law. The grain and provision pits are affected by them, in the little changes, more than by all other things combined, and in some respects they do good service. Scalpers are kept in the markets by them and without scalpers a futures market for legitimate business could hardly be maintained.—*Cincinnati Price Current*.

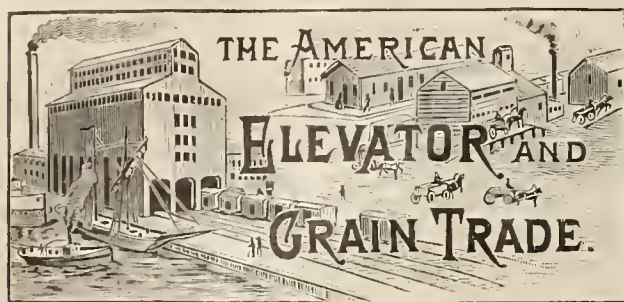
EXPERIMENTS IN CORN.

The Ohio experiment station has made some interesting experiments showing the effect of removing tassels from corn. They were made to test the theory that if the tassels were removed from corn before they have produced pollen, pollen bearing being an exhaustive process, the strength thus saved to the plant would be turned to the ovaries, and a large amount of grain be produced. From each alternate row of a plot of corn the tassels were removed as soon as they appeared. Briefly, the result of the experiment was that the number of good ears and the weight of merchantable corn both a little more than 50 per cent. greater on the rows from which the tassels were removed than on the others.

Hay, if kept dry, does not soon lose its savor. Hay thirty-two years old has been found in Wetmore, Kan., and is said to be well preserved, bright and sweet.

A dispatch from Rio Grande City, Tex., states that corn is selling at \$10 a bushel, Mexican money, or about \$7.50, American money. Texas liars are still very cheap.

The United States in the four months ending April 30 exported merchandise valued at \$303,752,138, against \$281,838,211 for the same period of 1890 and \$261,250,302 in 1889.



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HARLEY B. MITCHELL, - - - Editor.

ADVERTISING.

This paper has a large circulation among the elevator men and grain dealers of the country, and is the best medium in the United States for reaching this trade. Advertising rates made known upon application.

CORRESPONDENCE.

We solicit correspondence upon all topics of interest connected with the handling of grain or cognate subjects.

CHICAGO, ILL., JUNE 15, 1891.

EXPORTS OF BREADSTUFFS.

The report of the Bureau of Statistics for the month of May shows that the United States exported breadstuffs valued at \$12,330,231, against \$13,684,733 for May, 1890, and for the first five months of the year the exports of breadstuffs were valued at \$55,150,771, against \$71,204,672 for the same months last year. The exports during the eleven months of the ensuing crop year were valued at \$109,956,984, against \$139,855,022 for the corresponding period of the preceding crop year.

The wheat exports for May amounted to 6,286,987 bushels, valued at \$6,667,808, against 4,392,298 bushels, valued at \$3,746,201 for May, 1890. This is a notable increase, and is still more satisfactory when the increased valuation is considered. During the eleven months ending with May, we exported 47,405,391 bushels, valued at \$43,284,475, against 50,844,625 bushels, valued at \$42,098,826 for the eleven months ending with May, 1890. In this connection it may be mentioned that we exported 10,235,381 barrels of wheat flour during the eleven months, against 11,135,158 barrels during the eleven months ending with May, 1890.

The corn exports for May are below those for May, 1890, being 1,921,701 bushels, valued at \$1,431,936, against 10,106,072 bushels, valued at \$4,258,328 in May last year. For the eleven months ending May 31 the exports were 27,090,094 bushels, valued at \$15,243,787, against 93,125,742 bushels, valued at \$38,925,394 for the corresponding period of the preceding crop year.

The exports of oats show a more remarkable decline, being only 17,636 bushels, valued at \$12,232, for May, against 2,506,398 bushels, valued at \$893,280, for May, 1890. We exported 897,406 bushels, valued at \$378,327, during the eleven months ending May 31, against 10,527,876 bushels, valued at \$893,280, during the corresponding months ending May 31, 1890.

Of barley we exported in May 196,476 bushels, valued at \$129,509, against 29,015 bushels, valued at \$14,669, in May, 1890; this is a much better showing than for the eleven months of the

crop year ending with May, when we exported 853,876 bushels, valued at \$588,604, against 1,368,687 bushels, valued at \$735,819 for the same months of the preceding crop year.

The rye exports for the eleven months ending with May were 322,912 bushels, valued at 203,411, against 1,962,847 bushels, valued at \$1,104,504, for the corresponding period of 1889-90.

HAVING A GOOD EFFECT.

We were more than pleased recently by the comment of a gentleman connected with the grain trade for many years in regard to the shortages at Chicago, and especially those caused by the stealings of the men employed in operating the grain transfer cars on the transfer tracks of the different roads centering in this city.

A recent secret investigation, which was brought about by our direct blows at this abuse, showed in one case that the men operating the transfer cars were only the tools of a railroad official high in authority, and the stealing has been stopped, for a time at least, on one road entering Chicago. If this journal has been influential in suspending or reducing the quantity taken at any of the other grain transfers, we are extremely thankful.

The "excuse" that five to ten bushels must be taken out of every car to provide against loss by future shrinkage, cannot be used as a shield by the operatives of the grain transfer cars. Purposely leaving grain in cars to be swept out a few minutes afterward is an inexcusable steal, pure and simple, and every offender of this ilk should be prosecuted to the full extent of the law.

The Grain Receivers' Association of Chicago is in an advantageous position to put a stop to this stealing, and if the individual members are petitioned by their country customers to do so, they will gladly make an effort to stop it. If your through shipments which are transferred by grain transfer cars in the Chicago yards arrive at destination a few bushels short, do not silently submit to the robbery and meekly accept it as inevitable, but object just as strongly and loudly as you can.

INSPECTION AND WAREHOUSES FOR NEBRASKA.

Nebraska's Warehouse Law goes into effect July 1, and after that date many farmers of that state expect to have the elevators run to suit. A meeting will be held at Omaha to-night to perfect the organization of a grain and produce exchange, and great preparation will be made for "the opening of a grain market" at that point. Omaha in the past has handled the bulk of the grain produced in the state, and after this month its grain business will undoubtedly increase, as it will have improved facilities for handling the business. The rest of the state will not be benefited.

If the farmers throughout the state accept as true the statements of the tyro writing for the Omaha *Bee* on this subject, they will be greatly disappointed, and their groundless enmity for elevator men will be increased. This ignoramus says: "Every grain elevator, warehouse and storehouse in Nebraska becomes common property to the extent that the producer may offer his product for storage upon payment of a reasonable compensation for the privilege." What an outrageous misstatement! The law no more gives the farmers this right than it gives the author of the law the right to bore a hole in the head of the *Bee's* writer and cram the provisions of the law into it. In another issue the *Bee* says: "Under this measure every elevator, warehouse and storage building becomes a public warehouse. The producer may take his product to the warehouseman for storage and there, upon certain necessary reasonable conditions, it must be received."

This is wrong, the law does not make any such provisions. If it did, it could not be enforced. No man can be compelled to operate his house as a public warehouse. Public warehouses will be

established only at points where state inspection of grain is established, nowhere else. It would be too expensive and impracticable to establish state inspection at points other than Lincoln and Omaha, and it is not likely to be established at other points. If it is, it will probably be soon discontinued.

The fairy tale of the *Bee* about state inspection and public warehouses at every station being an improvement upon the sub-treasury scheme of the alliance is, indeed, very amusing. The suggestion, too, that public elevators be the joint property of the farmers is a good one. We heartily agree with the *Bee* in the statement that, "The new law deserves to be examined;" in fact, we ask that its commercial editor be compelled to read the law through at least once.

NEW INSPECTION RULES FOR ILLINOIS.

Elsewhere in this issue we publish several amendments made by the Warehouse Commissioners to the Illinois grain inspection rules. These changes are made with the best intentions on the part of the Warehouse Commission. It must be admitted that it is ever ready to hear complaints, and strives only to make grain inspection in the state as fair, as just and as satisfactory to all concerned as possible.

All the changes made have been favorably received, except the amendment to Rule VII, which provides that the word "new" shall be inserted in each certificate of inspection of a newly harvested crop of corn until the first day of June of each year. This change was emphatically denounced at the recent meeting of the Illinois Grain Merchants' Association at Springfield, and resolutions were adopted alleging that under the new rule it will be impossible to get any contract corn for delivery before June 1 of each year, which will compel the farmers of the state to hold their corn until it is assessed for taxes, or sell it as "new" corn at 2 cents less per bushel than contract corn. The resolutions state further that this action of the commissioners will permit the grain speculators on the Chicago Board of Trade to control the markets prior to June 1. The producers and merchants of the entire West are called upon to protest against this action of the commissioners.

If the rule is strictly enforced it will surely work injustice to much corn every year. The date should have been left out of the amendment. For several years past much corn from Nebraska and Kansas, possessing the qualities of No. 2 corn, has been found, months before June 1 following the harvest, to be in condition to keep, and therefore has been graded No. 2 corn. This spring much Illinois and some Iowa corn was graded No. 2 during April. Before that time Illinois corn was graded No. 3, not because it was dirty or unsound like much of the corn in the No. 3 bins, but because it contained so much moisture that it was likely to heat if kept in store.

Corn from too great a latitude is marketed in Illinois to permit the commission to justly establish an arbitrary date for it to be in condition. If, however, new No. 2 corn which is dry and in fit condition to keep in store will be accepted on Board of Trade contracts, it should sell for as good a price as old No. 2 corn, regardless of the word "new" in the certificate of inspection. New No. 2 will of course command a higher price than No. 3, so the change will prove of advantage to the producer. Corn which, like much received at Chicago during the past season, possesses the qualities of No. 2, but is not in condition, will not be graded No. 3, as heretofore, but will stand upon its own merits, and not those of No. 3 corn, which may be dirty, unsound and only reasonably dry.

The Illinois grain merchants also passed resolutions in opposition to the word "new" being placed in certificates of inspection of new winter wheat marketed prior to Nov. 1, on the ground that new winter wheat was generally marketed during July, August and September. This is an old rule, and no objection has been made to it before, but the same objections can be raised

against placing the word "new" in certificates of inspection of new wheat in condition to keep in store as have been raised against placing it in corn inspection certificates where the corn is in condition to keep.

CAR FAMINE PREDICTED.

RAILROAD officials are already predicting a car famine of unusual proportions for next fall and winter on account of the large grain crops and heavy exports expected, and instead of trying to devise means of avoiding or alleviating the famine, they calmly accept the situation and say they do not see how it can be avoided. As they do not wish to remedy the evil, of course they cannot even try to do so.

The railroad companies of the West rent many freight cars every year, but of course it would be impossible to rent an extra number for the six months during which the bulk of the grain will be carried East. It is also impossible for them to erect storage elevators or grain transfer houses at their respective terminals for the purpose of expediting and facilitating grain shipments.

More cars would mean extra expense to the company renting them, and as the majority of the shippers along any line have to ship over that line or none, the company could gain little by the expenditure for improved shipping facilities. Shippers at points having competing railroads, might secure a little better service by such expenditure on the part of the railroads, but as business at such points is always attended to first, and necessarily given the most attention, the service at these points cannot be much improved upon. The business at non-competing points will be attended to whenever the company can conveniently do so, not before.

Then, too, it is to the interest of the Eastern roads to have shipments delayed as much as possible so that they will have more grain to transport to the seaboard after the lakes have closed to navigation and the freight rates have been advanced.

Competition among the railroads does, and always will, do much to alleviate this evil, but the united effort of the grain shippers along any line will do more.

WEEVIL IN ELEVATORS.

More elevators and mills seem to be infested with insects this season than for a number of years, at least we have had more applications for information as to the best way of exterminating this pest than ever before. Elevator men probably suffer greater losses from the depredations of the grain weevil than from all other insects combined. Yet, if they will take good care of their house they can reduce the loss to a minimum. Where grain of so many different farmers is taken into a house, weevil are almost sure to be taken in.

In a country elevator which we visited recently we found about 100 bushels of screenings, dirt, wheat and oats, piled up in a dark corner—an ideal paradise for the most fastidious weevil that ever chewed wheat. Elevator men who are so outrageously careless cannot expect to have their elevators free from destructive insects. Few are the insects infesting grain storehouses that have not an unconquerable dislike for well-aired, light, clean places. This fact should always be borne in mind and once a year when stocks get low every elevator should be given a thorough cleaning. A coat of whitewash for the inside of the elevator (insides of bins excepted) would be an excellent thing.

If your elevator is infested with insects you can exterminate them with bisulphide of carbon, cheaper and easier than by any other way. We have two articles regarding this insecticide elsewhere in this issue which every elevator man will do well to read carefully. If grain in one bin only is infested with insects they can easily be exterminated by covering top with oilcloth or other material that is nearly airtight and applying bisulphide of carbon. If applied to entire

house great care should be taken to make it airtight and clean.

Bisulphide of carbon is cheap, costing at wholesale 10 to 18 cents per pound. It volatilizes very readily, and as the vapor is heavier than air it falls instead of rising. It has a disagreeable odor, is explosive, and very inflammable, so persons and fire should be kept out of bin or building where it has been applied until same has been well ventilated. It evaporates so quickly that it can be poured upon grain without injuring it.

DISCOURAGING DISCRIMINATIONS IN FREIGHT RATES.

One of the sections of the Inter-State Commerce Law provides that a carrier shall not make a rate on a class of freight for any distance lower than the rate charged on the same class for a less distance, and from a recent decision of a United States court regarding grain rates, it seems that this provision is not made in vain. The railway company involved has lost the case, which was brought to trial, and it is reported that it has settled with a number of grain shippers against whom it discriminated in the matter of rates by returning to them the amount of the overcharge on their shipments. Railroad companies can no longer discriminate with impunity against a shipper or locality. If a company does not give you as reasonable rates as it does to other shippers, seek the law's protection.

The members of the Grain Shippers' Association of Northwestern Iowa, who sued the Chicago & Northwestern Railroad Company for a return of overcharges in freight on grain have won their suit, and it will probably be followed up by many more of the same nature. The shippers were charged eight cents more per 100 on grain to Chicago than the shippers at Blair, Neb., which is clearly a violation of the Inter-state Commerce law. In the trial evidence was introduced to prove these charges, and the judge in giving his instructions to the jury ruled that it was a violation of the law and that the plaintiff was entitled to recover damages to the amount of the difference between the exorbitant rate charged plaintiff and the rate paid by Nebraska shippers. Other cases based upon the same discrimination but brought by other members of the same association, are pending, and will be heard at the next term of court. The total amount of the claims is over \$250,000. These suits are expensive but are by far the best antidote railroad companies can take for discrimination. It gives relief immediately after paid for.

GRAIN MEN ACCEPT A COMPROMISE.

Kansas City grain men have withdrawn their complaint against the Santa Fe, Rock Island, Missouri Pacific and Union Pacific railroad companies, which was filed before the Inter-State Commerce Commission some time ago. The commission was to give a hearing at Kansas City soon. The arguments in these cases had been prepared and active preparations were being made to prosecute the railroads.

A compromise has been made, and the railroads, it is claimed, have made some concessions which reduces the alleged discrimination against that city. The Rock Island, it is said, will pro rate at Kansas City, and other companies have promised to make more satisfactory rates from the West to Kansas City.

The managers of roads entering that city from the West refused to make as low a rate on grain from the West for that city as on the same grain if shipped to that city on its way to points farther East. If it costs a carrier more to deliver grain to a dealer at its terminus than it does to deliver the same grain to a connecting line it is justified in charging more, otherwise it is not. If it cost more the carrier could not in justice to the shipper of through grain charge the Kansas City dealer the same as the through shipper.

The withdrawal of the complaint is somewhat of a surprise, but cannot be justly criticised by

outsiders who are unacquainted with the points gained by the grain men. The public was deeply interested, and other cases of a similar nature were held in check awaiting the outcome of this fight, but if the Kansas City grain men are satisfied that is sufficient.

ECONOMY IN CHICAGO INSPECTION DEPARTMENT.

The receipts of grain at Chicago during the past two years so greatly exceeded preceding years that the fee for inspection was reduced from 35 to 25 cents per car. The receipts having lately declined so that the department was not paying expenses, the Warehouse Commission found it necessary to make some change, and instead of enlarging the inspection fee, as has generally been done heretofore, the commission has dismissed seven track inspectors and one office clerk.

A reduction in the inspection department force or an advance in the fees was necessary. Whether the commission chose the better way out of the difficulty or not will not be known until the new crop commences to arrive at Chicago for inspection. The inspection tracks are so scattered about the city that the present force will then be unable to inspect daily all the grain that will arrive, so it will be necessary to employ new inspectors. That the department will succeed in getting new men who will from the start make as reliable and able inspectors as those discharged, is doubtful. A few mistakes by inexperienced men would prove far more expensive to the shippers than an increase in the inspection fee, and would irretrievably injure the reputation of Chicago inspection. Unreliable inspection is far worse than no inspection.

UNIFORM BILL OF LADING.

At a recent meeting of the National Transportation Association, which was attended by representatives of the principal boards of trade and commercial organizations of the country, a new bill of lading was framed, and the Inter-state Commerce Commission will be asked to sanction and ratify it. The new form is as follows:

Received for transportation from [shipper], in apparent good order, as noted, the package described below [value unknown], marked and consigned as per margin and subject to carrier's liability as laid down by the common law in force in the several states, territories, provinces or foreign countries through which the property must pass.

The rate of freight upon the property herein described shall not exceed — per — between [shipping point] and [destination].

Marks and consignments —. Description of articles —. Weight, subject to correction, —.

Whether this form will be acceptable to the railroad companies is not known, but it will surely be more acceptable to shippers than the present multiplicity of forms. The form which the railroad companies vainly tried to put into use last year was far more unsatisfactory than this form, and was opposed, from the time it was made public, by the shippers in all parts of the country. The carriers are in favor of a uniform bill of lading, but, of course, would prefer to have one that relieves them of all liability for goods received.

No opposition to this form has yet been made public, but it will surely find opponents. All concerned are desirous of simplifying matters by uniformity, and the great majority are in favor of any form which has in it all that is necessary to an equitable contract, and is clear and free of contentious phraseology.

The principal fact brought out by the evidence in the Duluth investigation so far is that the Duluth elevator men have acted as honorably as any one could do; that to protect the wheat producers and owners of wheat stored in the Northwest they did not post, as they could have done, for self protection, 300,000 bushels of heated wheat, but that they bought up the certificates outstanding against the wheat and quietly shipped it out at a loss of over \$100,000 to themselves. A panic was averted, the reputation of Duluth grading was upheld and the wheat producers of the country were saved thousands of dollars.

Grain Dealers' Associations.

KANSAS AND NEBRASKA GRAIN DEALERS ELEVATOR ASSOCIATION.

President, MASON GREGG, Lincoln, Neb.; *Vice-President*, FRANK LOWER, Council Grove, Kan.; *Secretary*, W. T. CAYWOOD, Clifton, Kan.; *Treasurer*, O. A. COOPER, Humboldt, Neb.

GRAIN SHIPPERS' ASSOCIATION OF NORTH-WEST IOWA.

President, T. M. C. LOGAN, River Sioux; *Vice-President*, H. HANSON, Odobolt; *Secretary and Treasurer*, F. D. BABCOCK, Ida Grove; *Assistant Secretary*, F. G. BUTLER, Schaller.

Executive Committee, E. A. ABBOTT, Des Moines; J. Y. CAMPFIELD, Sac City, and T. M. CATHCART, Kingsley.

GRAIN DEALERS' ASSOCIATION OF OHIO.

President, E. C. WAGNER, Columbus, Ohio; *Vice-President*, E. M. BENNETT, JR., Urbana; *Secretary*, E. W. SEEDS, Columbus; *Treasurer*, J. W. MCCORD, Columbus.

Board of Managers, J. C. HANNUM, Duvals; J. W. JONES, Radnor; J. P. McALLISTER, Columbus; J. W. WOLCOTT, Conover, and N. R. PARK, Ada.

Legislative Committee, J. W. MCCORD, D. McALLISTER, E. W. SEEDS, E. C. WAGNER, W. A. HARDESTY, and E. C. BEACH.

ILLINOIS GRAIN MERCHANTS' INSURANCE AND PROTECTIVE SOCIETY.

President, ISAAC VAN ORDSTRAND, Hawarden; *Secretary and General Manager*, S. K. MARSTON, Otaga; *Vice-President*, JOHN STEWART; *Treasurer*, G. C. McFADDEN, Havana.

Executive Committee, S. K. MARSTON, D. H. CURRY and F. M. PRATT.

Committee on Claims, D. M. BRUNER, J. F. ZAHN, H. C. MOWREY.

Committee on Legislation, W. ARMINGTON, V. R. ST. JOHN, C. C. ALDRICH.

A corn palace will be built at Sioux City this year.

It is said that B. P. Hutchinson has engaged office rooms in Boston.

Flaxseed has been sold at Chicago for shipment to London, a transaction the like of which has not occurred for some years.

It is reported from Waterloo, Ia., that cutworms are doing much damage to growing corn and potatoes. Many fields have been replanted.

More than two hundred carloads of wheat were received at Duluth from Minneapolis May 25. It is destined for direct export to Liverpool.

Grain is put to a base use by a Sioux City firm which makes coffee out of burned grain and chicory molled in the form of the coffee berry.

A heavy windstorm, June 3, blew all the wheat in Liberty township, Macon Co., Mo., flat on the ground. The damage is estimated at \$50,000.

During the fourteen years ending in 1890 there were nineteen fires in elevators and grain warehouses in Massachusetts, causing a loss of \$73,608.

The California State Board of Agriculture is introducing the culture of ramie and flaxseed into the state by furnishing to farmers free of charge plants and seeds for experiments.

Col. C. J. Murphy will make an exhibit of food products made from corn, at London, this summer. The success of the exhibit at Edinboro and Glasgow will probably be more than equaled in London.

T. C. Friedlander, secretary of the San Francisco Produce Exchange, gives the supply of breadstuffs in California June 1 in cents as follows: Wheat, 1,926,562; barley, 352,882; oats, 45,074; corn, 76,738; rye, 14,136; beans, 46,682 sacks, against wheat, 4,801,063; barley, 1,004,457; oats, 61,235; corn, 91,111; rye, 15,892; beans, 39,503 sacks, June 1, 1890; against wheat, 2,092,430; barley, 2,052,630; oats, 119,245; corn, 38,925; rye, 10,215; beans, 60,415 sacks, June 1, 1889; against wheat, 3,881,960; barley, 2,063,450; oats, 62,095; corn, 82,200; rye, 800; beans, 33,675 sacks, July 1, 1888; against wheat, 2,790,400; barley, 798,500; oats, 42,400; corn, 72,330; rye, 1,350; beans, 74,405 sacks, July 1, 1887; against wheat, 1,252,600; barley, 114,850; oats, 31,150; corn, 27,625; rye, 1,080; beans, 103,700 sacks, July 1, 1886; and against wheat, 12,444,278; barley, 595,028; oats, 15,744; corn, 94,210; rye, 3,820; beans, 70,780 sacks, on July 1, 1881.

EDITORIAL MENTION

We will be pleased to publish any news of your district which will be of interest to our readers. Do not be backward about writing to us.

The greatest bargain ever offered is the *American Miller* and the *AMERICAN ELEVATOR AND GRAIN TRADE*, mailed to any address in this country or Canada for \$1.50 per year.

Do NOT wear out your shoes hunting a position, help, location or machinery, but put a small advertisement in our department devoted to "Miscellaneous Notices," and you will have your wants quickly supplied. Try it.

THE exhibition of grain and improved machinery for handling grain at the World's Columbian Exposition, will greatly exceed all former exhibitions of this kind, and will be visited by almost every grain dealer and elevator man of the country.

FAIR prices for grain keep the more sensible farmers in the field, and the agitating demagogues shout to small audiences. Successful farmers attend to business and not the meetings managed by professional agriculturists in search of a government snap.

THE MORTON MANUFACTURING COMPANY, makers of elevator horse powers, have moved from Romeo, Mich., to Muskegon, Mich., where they have a fine large plant and are better prepared than ever to build horse powers, especially adapted for use in grain elevators.

THE grain trade of Toronto, Ont., is very quiet this season. The dock laborers are complaining of having no work to do and that the elevators are idle. The barley was exported last fall before the new tariff went into effect, so little grain remains to be shipped by water.

MERCHANT & Co. of Philadelphia, dealers in all kinds of metals and roofing, have issued a very neat little catalogue in which the superior qualities of the Star Ventilator are set forth by the makers and patrons who have used it. Sample copies will be sent to any address upon request.

THE rivalry among the owners of large lake propellers has prompted the proprietors of the W. A. Gilcher to contract to carry a cargo of 115,000 bushels of corn from Chicago to Buffalo. This is nearly 4,000 bushels in excess of any former cargo taken down the lakes by one vessel.

WHEN writing to us do not fail to give the condition of grain crops in your district, also an estimate of the grain in farmers' hands and in store. The information will prove interesting reading to your brother dealers, and they will reciprocate and give you like information regarding their section.

OCEAN freight rates are very low, and will continue to be so until the new crop begins to move. Cargoes can be shipped from New York to San Francisco via Liverpool at a lower rate than they can be shipped overland. Vessel owners are anxious to have their ships in San Francisco to take wheat to Europe.

THE tapping of telegraph wires in Illinois to secure market quotations and other important news in advance of the general public will undoubtedly be unlawful in a few days. A bill providing that any one convicted of so doing shall be deemed guilty of a misdemeanor and punished by a fine of \$300 to \$500 or imprisoned one year

has passed both houses; and the Governor has no good reason for not signing it.

THE Division of Entomology of the Agricultural Department has imported some parasites of the Hessian fly, and an effort will be made to acclimatize the parasite to this country. With the cholera exterminating the chinch bugs and this parasite destroying the Hessian flies, our small grains ought to be comparatively safe.

If you wish information on any subject relating to the grain trade make use of our department devoted to "Queries and Replies" and get answers from practical men who have been in the business many years. Not one of our readers would selfishly refuse to give a brother dealer the benefit of his experience with any knotty trade question.

WE are indebted to E. W. Seeds of Seeds & Scott, grain commission merchants of Columbus, O., and secretary of the Ohio Grain Dealers' Association for our account of the association's pleasure trip to Put-in-Bay. Grain dealers can profit much by social as well as by business meetings, and we would be pleased to hear of more of them following the example of the Ohio dealers.

CATALOGUE thirty-six of the Great Western Manufacturing Company of Leavenworth, Kan., should be carefully examined by every dealer who contemplates making improvements in his warehouse or the erection of a new elevator. This new catalogue for 1891 contains full descriptions with illustrations of the machines handled by this firm, which includes everything needed to equip an elevator.

AFTER next August country grain dealers of the Northwest will probably do more trading at Duluth, as then they will be able to hedge in that market against their holdings with greater safety. The changing of the contract grade from No. 1 hard to No. 1 Northern will also make it easier for all speculators to fill their contracts in that market, hence they will do more trading.

THE Merchants' Exchange of Buffalo has met with such remarkable success in securing the adoption of grain transfer houses, that it should make strenuous efforts to secure the enforcement of the legal rate for transferring grain at that point. Buffalo merchants should aim to foster the city's grain trade, and prevent, if possible, its extermination by the railroads' elevator pool.

ABOUT fifty members of the American Seed Trade Association met at Cincinnati, O., June 9. Among other things the association gave considerable attention to the fraudulent importation of seeds. It seems that unscrupulous dealers have secured an advantage over the more conscientious dealers, and defrauded the government by giving dutiable seeds the wrong classification and importing them free of duty.

THE floating transfer elevator Cyclone, which transfers grain from lake vessels to canal boats at Buffalo for five-eighths of a cent per bushel less than the elevator pool, has met with so many accidents that the members of the pool have not worried much about losing business. If the Cyclone does get to working well the pool will have it destroyed, if they cannot buy it or get the owners to keep it in idleness.

THE Southwestern railroad companies are considering a proposition to appoint inspectors at Missouri River points to supervise the billing of grain. An equitable division of through grain among the competing lines, may reduce rate cutting, but will not stop it. Railroad officials are always ready with a new scheme to gain their point. Recently a Western road, wishing to obtain some Chicago business that had been assigned to another road, carried the goods at full rate to the first station east of the competing point, and

made a low rate from that point to Chicago. Railroad companies will not quit cutting rates until they can procure all the business they can attend to without cutting.

The new rule adopted by the New York Produce Exchange making 5,000 bushels the minimum contract instead of 8,000 bushels will not be put into effect until July 1 and will not apply to deliveries until next January.

About all the corn now in Chicago elevators has been sold for export, and orders continue to come for more. Freight rates on grain to Liverpool via lake, rail and ocean have been about 20 cents per 100, but if the present movement continues a slight advance will be made.

The Great Western Manufacturing Company of Leavenworth, Kan., manufacturers of the "Peerless" Power Grain Shovel and elevator machinery and supplies, has established a Northwestern agency at Minneapolis, which will be in charge of Mr. C. D. Holbrook, Room 4, Corn Exchange.

If you wish to sell an elevator, location for an elevator, or elevator machinery, do not advertise the fact in a country newspaper which will not be read by more than two or three grain dealers, but make known your wants through the columns of some journal that circulates among the actual grain dealers of the country. The only journal published in the interest of the grain dealers is the AMERICAN ELEVATOR AND GRAIN TRADE.

English sparrows will have to leave Illinois or be killed. A bill providing for the payment of a bounty of 2 cents a head has been passed by each branch of the state legislature and will in all probability receive the Governor's signature. Michigan pays a bounty of 3 cents, so that many of these dirty, fighting destructionists will be exterminated. Other states should fall into line and help to relieve the country of this pest.

Representatives of almost every trade in this country are preparing to hold a national convention in Chicago in 1893, and some are preparing to hold international conventions. Representatives of the grain trade should not be behind their fellow merchants in this matter. An international meeting of grain dealers would surely be largely attended by dealers from the different parts of this continent, and Europe would have some representatives present.

With this issue of the AMERICAN ELEVATOR AND GRAIN TRADE we complete the ninth volume. For nine years we have labored in the interest of this trade and aimed to make each volume of this journal better than the preceding ones. A perusal of the numbers of this volume will convince any reader that we have made considerable improvement during the past year, and we wish to assure all our present and prospective subscribers that we will make greater improvement in the next volume. This journal is the only one in this great country published in the interests of the grain trade, and it deserves the constant support of every dealer in the land. Give it your support by subscribing.

An excellent work has recently been published by W. P. Dickinson & Co. of this city called the Grain Dealer's and Shipper's Gazetteer. A cloth-bound, well-printed book of 370 pages, containing the grain inspection rules for the states of Illinois, Wisconsin, Minnesota, Michigan, Ohio and Missouri, and the names of the grain dealers and shippers on twenty-five lines of railroad, which include all the dealers of the principal grain producing districts of the country. The list of names was compiled, not through the agency of a mercantile bureau, but by the assistance of the different railroad companies who are directly interested in having a complete list compiled. The list is conveniently arranged, is

new, reliable and far ahead of anything yet published in this line. No other can be compared with it. We will send copies to any address in this country or Canada for \$5 each.

It is reported that state grain inspection will not be established at St. Cloud, Minn., until next fall, which is many years too soon. Inspection of grain at the few country points where it has been established in recent years, should be suspended until we have national inspection rules and inspectors at every railway station in the land, to inspect not only the grain marketed at each station, but all passing through. These frequent inspections would, at first, please the farmers, and always prove profitable to the inspectors.

A decision of importance to maltsters and to barley dealers has been made by the Treasury Department. The new decision is to the effect that malt manufactured from imported barley, and exported under proper entry, is entitled to a drawback, but that imported barley cannot be converted into malt while in bond, but must be withdrawn for consumption and the duties collected in the usual manner. Heretofore our exports of barley products have not been very heavy. This new decision will encourage exports, but is not likely to bring about a great increase.

The Charter Gas Engine Company of Sterling, Ill., writes us that "An Illinois grain elevator man who put a 'Charter' in one elevator last year has placed his order this month for two 'Charters' for his elevators. All his elevators will be run by 'Charters' when the present order is filled. Another Illinois elevator man who put a 'Charter' in one of his elevators last year has also just placed his order for another one. The demand is brisk, and besides for grain elevators our order book shows engines ordered for flour mills, dynamos, threshing machines, printing machinery, etc."

In this issue we add another of Clark's Grain Calculators to our list of "Valuable Books for Grain Dealers." It is "Clark's Decimal Grain Values" and is the most extensive, most valuable and most useful work in this line ever offered to the trade. The use of this book affords the most rapid and practical method of computing the cost of grain, and once put in practical use will never be discarded. It embraces the widest range of price and quantity. One great advantage is that any computation, however complicated, is completed upon a single page. Copies will be sent upon receipt of the price, \$10 each.

The prohibition of the sale of grain, otherwise than by weight, is a question that has been much discussed in Great Britain and will continue to be agitated until some action is taken. Uniformity is to be greatly preferred in all things and especially in the standard by which grain is sold. It is something that is much needed in this country as well. The difference in the legal weights of a bushel of some of our grains in the different states is ridiculous. The National Government should adopt weights for a bushel of the different grains which should be standard in all parts of the country. Uniformity and simplicity are greatly to be preferred.

The grain exports from Kansas City via New Orleans are steadily increasing, which is very good news for the grain dealers of the West, as it means more markets, stronger competition and better rates and handling facilities for their business. A report of the New Orleans Board of Trade shows that in 1889 New Orleans received from Kansas City 294,000 bushels of grain; in 1890 1,605,905 bushels, and up to May of the present year 353,168 bushels. The above figures are on grain from Kansas City handled direct to European ports on through bills of lading, and in addition to what was shipped to New Orleans locally and exported by New Orleans dealers. If New Orleans merchants would provide better handling facilities much more grain would be

annually exported from that port than has been exported in the past. The more outlets we have for our export grain trade the stronger will be the competition among all those interested in having it go by the different ports, and the trade at large will be benefited thereby.

ELEVATOR owners of Indiana who work their employes more than eight hours a day will do well to have them sign a contract agreeing to work the number of hours per day they desire. The State Supreme Court has, in a recent decision, sustained the new law limiting a day's work to eight hours. An Indianapolis feed company discharged a man who had been working for it ten months at \$1.25 per day. It seems he worked eleven hours a day, and as soon as he was discharged he brought suit to recover pay for the extra three hours a day. In deciding the case in the plaintiff's favor the court held that unless there is an express agreement to the contrary, employes who are required to work more than eight hours a day must be paid extra.

GRAIN shippers do not always meekly submit to impositions. Abuses grown old long ago do not worry them so much, but they seem to have a strong dislike for any new abuses. The Grand Trunk recently tried to force shippers to pay for insurance against loss by fire on grain which was delayed in the company's elevators by scarcity of cars. The shippers rightly maintained that grain held in elevators while awaiting shipment should be at the railroad's risk of loss from fire, and boycotted the road because it insisted on shippers paying for the insurance. Considerable grain was sent to New England by routes which could take it through without delay, so the Grand Trunk Company submitted, and will bear the extra expense due to delays for which it alone is responsible.

SCREENINGS.

When wheat jumps up dealers run.

Great jags from little corn juice grow.

An inveterate plunger in grain—the grain tryer.

If your elevator has bowed legs, put braces on them.

Bostonians should beware lest Old Hutch corner the bean market.

It is an awful cold day when a running sheller will not make a crib shell out corn.

Corn in the field is shocked, and when it is made into whisky it is shocking.—*Binghamton Republican*.

A Boston girl who had been told of a new elevator with twenty three legs, asked if it was of the same species as the centipede.

Willie—"Papa, what does a real fine corn palace cost?" Willie's Papa (with new patent leathers on)—"Twelve dollars a pair, my son."

Preachers rarely make deals in mercantile exchanges, but in their pulpits they are very apt to speculate on futures.—*New Orleans Picayune*.

He—"I believe in making hay while the sun shines." She—"What do you want of hay? I should think you would prefer thistles."—*New York Herald*.

Our gold is drifting Europe-ward,
And financiers complain;
The only gold should go that way
Is our rich golden grain.

Hezekiah (seeing the sights with his papa)—"Say, paw, why do they call this 'ere building the exchange?" Old Dubbs (a lamb who has been shorn)—"Because, sonny, that's where you exchange your cash for experience."

Roused his blood: Farmer Eli—"Jane, I'm going to New York to morrow." Mrs. Eli—"For the land's sake! What you goin' to New York for?" Farmer Eli—"This paper says the visible supply o' buckwheat is 400,000 bushels, an' I'm goin' down to see it ef I never go no-where again."

A countryman sowing his ground; two smart fellows riding that way; one of them called to him, with an insolent air: "Well, honest fellow," said he, "it is your business to sow, but we reap the fruit of your labor." To which the countryman replied: "It is very likely you may, for I am sowing hemp."

ITEMS FROM ABROAD

Exports of flax from Russia have fallen from 3,269,682 poods in 1888 to 2,683,307 poods in 1890.

Spring wheat crop prospects in France improved during May, but the outlook for winter grain is gloomy.

Hungary is shipping much less flour than usual, as holders at Buda Pesth are making extravagant demands.

French wheat imports in April exceeded exports by 4,952,000 bushels, against 2,864,000 bushels in April, 1890.

The President of Peru has decreed that wheat, corn, peas, beans, rice, rapeseed and spices be admitted free of duty.

Turkey in Asia has had weather favorable to crops. Wheat looks well, and if the weather continues favorable, the harvest will be large.

The French distillers are making efforts to have the duty on corn and molasses reduced, to enable them to compete with foreign distillers.

The French Senate has amended the bill reducing the import duty on wheat and flour, making the reduction go into effect immediately instead of Aug. 1.

The scarcity of corn in Italy has caused a rise in the price of bread, and this may lead to a reduction of the duty. Crops in that country promise to be below the average.

The exports from France in 1890 included 5,894 quintals of wheat, 76,497 quintals of rye, 531,688 quintals of barley, 30,243 quintals of oats, and 83,171 quintals of maize.

Germany has decided not to reduce the corn duty, as a general state of distress does not exist and the crop prospects have improved. The price of rye recently went up 6 marks.

India seems to find its silver lining to the cloud that hangs over exchange, and from a good wheat crop offers freely. The Continent takes of it freely as well as ourselves.—*The Miller, London.*

The Russian Minister of Finance will establish special agencies in Great Britain, France, Italy and other countries consuming Russian corn, to supervise the work of extending grain exports from Russia.

The island of Cyprus exported more cereals during the year ending March 31 than in any previous year; 517,081 bushels of wheat, 952,195 bushels of barley and 136,152 bushels of vetches and oats were shipped.

The French government on May 23 reduced the duty on wheat to 3 francs (58 cents), and on flour to 6 francs (\$1.16) per hectolitre (2,837 bushels). This reduction goes into effect Aug. 1, and continues until June 1, 1892.

Russia's winter wheat crop will be below the average, according to the official report. Rye is also certain to be deficient in quantity. The peasants in the Simbirsk and Samara districts have attacked the corn magazines in order to satisfy their hunger.

The government of Portugal has reduced the duty on foreign wheat to 9s. 7d. (\$2.23) per 480 pounds and maize 7s. 8d. (\$2) per 480 pounds. A temporary duty of 12s. 4d. (\$3) per sack has been placed on flour. All other restrictions on the importation of wheat have been removed.

The high price of wheat in Europe has called out the wheat reserves of India, a country where the home consumption is influenced to a very great extent by prices. Dealers are pushing forward supplies from the new harvest, which was early. The exportations of wheat from Bombay in May aggregated about 5,000,000 bushels.

The President of Venezuela, "desirous of preventing the crisis which might be caused by a want of cereals forming the principal element of food of the poor classes of people," decreed that all cereals could be imported free of duty after April 2 until further notice, which would be given thirty days in advance of any change.

The cultivation of flax is increasing in the Argentine Republic. Flaxseed was first exported in 1878, when 35 tons were shipped. Exports increased to 958 tons in 1880; 6,394 tons in 1881; 18,644 tons in 1882; 23,061 tons in 1883; 33,991 tons in 1884, and 69,426 tons in 1885. The total crop of last year is estimated at 100,000 tons, and only 5 per cent. of the area under crop cultivation is sown with flaxseed. For nine months of 1890 the exports were 30,542 tons.

Never since 1874, when the wheat trade practically began, have the receipts of wheat in Bombay been so large, or nearly so large, as in the first four months of the current year—that is, from Jan. 1 to April 30. They have reached during that period the enormous total of 198,097 tons, as compared with 97,420 in the corresponding four months of the previous year, 178,686 in the same period of 1886, in which year the shipments were larger than had ever before been known, and 180,708 in 1887, the last mentioned figures representing the largest receipts in any four months up to the first four months of the current year. As to the shipments this year, of course we cannot yet speak definitely, but an idea of their magnitude

is gathered from the fact that steamers representing a total carrying capacity of between 350,000 and 400,000 tons are expected to load here in the course of the present month.—*Times of India.*

Germany imported in 1890 6,723,444 quintals (of 220½ pounds each) of wheat, 7,349,670 quintals of barley, 1,876,116 quintals of oats, 8,762,144 quintals of rye, and 5,619,322 quintals of maize. That country exported in the same year 2,056 quintals of wheat, 64,251 quintals of barley, 4,610 quintals of oats, 1,194 quintals of rye and 634 quintals of maize.

Russian wheat exports for the four weeks ending May 16, amounted to 1,176,352 quarters, against 1,532,138 quarters and 1,424,008 quarters in the same period of 1890 and 1889 respectively. From Jan. 1 to May 16 4,006,928 quarters were shipped, against 3,732,200 quarters and 4,334,384 quarters in 1890 and 1889. The exports from Aug. 1, 1890, to May 16, 1891, were 9,375,582 quarters, against 9,385,708 quarters and 11,635,858 quarters for the corresponding periods of 1889-90 and 1888-89 respectively.

France imported in 1890 10,550,640 quintals of wheat, 10,483 quintals of rye, 1,699,911 quintals of barley, 1,493,213 quintals of oats, and 6,485,697 quintals of maize, against 11,417,592 quintals of wheat, 213,936 quintals of rye, 1,529,606 quintals of barley, 2,046,846 quintals of oats, and 5,217,421 quintals of maize in 1889, and for 1888 11,350,873 quintals of wheat, 477,325 quintals of rye, 1,578,481 quintals of barley, 3,913,490 quintals of oats, and 3,187,395 quintals of maize. A quintal is 220½ pounds.

THE EXCHANGES

The Boston Chamber of Commerce misses the Chicago Board of Trade's quotations, which have been obtained from private sources for the past year, contrary to the regulations of the Chicago Board. It was since discovered that a visitor, a guest of a Boston firm, gave away the private quotation snap.

The real estate committee of the St. Louis Merchants' Exchange prepared a scheme to erect a building recently, but when voted upon it did not receive the necessary three-fourths. The Exchange has a half a million dollars surplus, invested in 4 per cent. bonds, which could be used in the erection of a new building.

The Kansas City Board of Trade of Kansas City, Kan., has been organized with the following officers: President, F. S. Merstetter; vice-president, W. A. Pyle; second vice-president, Edward Haren; treasurer, E. F. Serviss, and secretary, D. W. Troup. The inspection committee is composed of N. P. Simonds; P. T. Hamm and Geo. C. Martin; and the arbitration committee, R. E. Higgs, R. E. Talpey; A. R. Ford, O. A. Orvis and C. Haines.

The New York Produce Exchange held its annual election of officers June 1, which resulted in the election of the regular ticket, as follows: President, Evan Thomas; vice-president, Thomas P. White; treasurer, E. C. Rice; managers to serve two years, C. D. Miller, Charles Coster, William Hamilton, F. F. Lockwood, E. H. Outrbridge and Henry McGee; inspectors of election, K. S. Brewster, A. L. Holmes, Robert F. Martin, Alex. Edson, Samuel Goodhue and S. C. Newman.

Secretary George F. Stone, of the Chicago Board of Trade in the thirty-third annual report of the trade and commerce of Chicago, gives the membership as 1,913, with 237 transfers yielding a revenue of \$5,925. The total receipts of the board were \$284,641, and the disbursements \$262,672, including \$69,443 interest on the bonded debt of \$1,350,000. During the year \$50,000 of the bonds of the Board were canceled, saving an expenditure of \$2,500 for interest. A continuance of this policy of retiring the bonds is recommended by the directors. Members were assessed \$70, \$25 less than the year before; and a reduction of \$5 will be made for the present year. The amount derived from rental of its real estate was \$99,535, and expenditure on real estate, \$154,007. From the time the aggressive policy was adopted against the bucket shops, the business of the Board revived, and a year of unwonted prosperity followed. The receipts of grain and flour in its grain equivalent, aggregated during the year 223,000,000 bushels, largely in excess of like receipts for any previous year.

Mr. Wilson, Kentucky Commissioner of Agriculture, on May 28 reported that the acreage of corn was greater than last year's by 5 per cent., and of wheat 6 per cent. Wheat is in excellent condition, but oats is a failure.

The Canadian Government has made new regulations for the grinding of grain in bond, and the customs business of the mills is being closed up. Further importations will not be allowed until application has been made and granted.

The Illinois Legislature recently passed two bills appropriating \$1,000 each to the Illinois Dairyman's Association and the Illinois Bee-keepers' Association. Why not appropriate \$10,000 for the Illinois Grain Dealers' Association. Its good work deserves recognition.

LATE PATENTS

Issued on May 12, 1891.

AUTOMATIC GRAIN WEIGHING SCALES.—James H. Gunder and William H. Pierce, Tolono, Ill. (No model.) No. 452,029. Serial No. 377,618. Filed Jan. 13, 1891.

GRAIN SIEVE.—John S. Rowell and Theodore B. Rowell, Beaver Dam Wis. (No model.) No. 452,065. Serial No. 376,451. Filed Jan. 2, 1891.

SEPARATOR.—George L. Dale, Newark, N. Y. (No model.) No. 451,918. Serial No. 367,498. Filed Oct. 9, 1890.

Issued on May 19, 1891.

GRAIN SCOURER.—Allen C. Brantingham, Winfield, Kan. (No model.) No. 452,434. Serial No. 348,172. Filed April 16, 1890.

FLAX THRASHER.—George Y. Smith and John McGath, Minneapolis, Minn., assignors to George N. Lyman, same place (No model.) No. 452,442. Serial No. 379,672. Filed Jan. 30, 1890.

HAY PRESS.—Richard A. Grant, Houston, Tex. (No model.) No. 452,755. Serial No. 380,715. Filed Feb. 9, 1891.

BALING PRESS.—Jos. R. Johnson, Indianapolis, Ind., assignor of one half to Jesse B. Johnson, same place. (No model.) No. 452,755. Serial No. 388,715. Filed Feb. 9, 1891.

Issued on May 26, 1891.

GRAIN METER.—Lincoln L. Sharp, Douglas, Neb. (No model.) No. 453,068. Serial No. 357,038. Filed June 28, 1890.

BALING PRESS.—Charles E. Whitman, St. Louis, Mo. (No model.) No. 453,098. Serial No. 307,914. Filed April 19, 1889.

COMBINED SINGLE-ENDLESS CHAIN ELEVATOR AND DISTRIBUTING CONVEYOR.—Adam Ritscher, Taylorville, Ill. (No model.) No. 453,130. Serial No. 369,565. Filed Oct. 38, 1890.

GRAIN DOOR FOR CARS.—Louis F. Martin, Kansas City, Kan., assignor of one-half to John W. Crumbaugh and Lander C. Prater, both of Kansas City, Mo. (No model.) No. 452,798. Serial No. 368,564. Filed Oct. 18, 1890.

Issued on June 2, 1891.

HORSE POWER.—Ellis O. Long, Willard O. Long and Herbert S. Long, Haycsville, O. (No model.) No. 453,195. Serial No. 356,459. Filed June 23, 1891.

GRAIN SEPARATOR.—Larkin G. Caldwell, Shelbyville, Mo. (No model.) No. 453,232. Serial No. 380,014. Filed Feb. 3, 1891.

CORN SHELLER.—Christopher C. Townsley, Johnson City, Tex. (No model.) No. 453,270. Serial No. 367,548. Filed Oct. 9, 1890.

GRAIN METER.—Jacob O. Wyman, Fargo, N. D. (No model.) No. 453,305. Serial No. 359,399. Filed July 19, 1890.

GRAIN SHOVELING DEVICE.—Allan G. Mather, Milwaukee, Wis. (No model.) No. 453,413. Serial No. 375,296. Filed Dec. 20, 1890.

AUTOMATIC GRAIN WEIGHING MACHINE.—Wells T. Barker, Nashville, Mich., assignor to the Barker Automatic Scale Company, same place. (No model.) No. 453,460. Serial No. 371,862. Filed Nov. 18, 1890.

FANNING MILL.—Thomas M. Bales, Dublin, Ind. (No model.) No. 453,532. Serial No. 376,671. Filed Jan. 3, 1891.

TRADEMARKS.

[Issued since our last publication.]

WEIGHING SCALES.—Jones of Binghamton, Binghamton, N. Y. Application filed April 21, 1891. No. 19,572. Used since 1879. The words "HE PAYS THE FREIGHT."

We exported during the ten months ending with April, 1891, merchandise valued at \$768,848,542, against \$747,260,706 for the same months of 1889-90 and \$641,967,825 in 1888-89.

We imported \$699,438,344 worth of merchandise in the ten months closing with April, against \$643,737,427 and \$615,187,589 worth in the corresponding periods of 1889-90 and 1888-89 respectively.

A correspondent writes the *Acheson Globe* from Osborn county, Kan., that nine tenths of the wheat that looked dead and yellow a few weeks ago is now in excellent condition, the late rains having brought it out.

A heavy crop is what the wheat raisers of this country need, rather than a small crop of equal total value, for in the first case the surplus can be exported, bringing cash to the small farmer. If the crop is light no money is brought into this country to make it richer.

WATERWAYS

Hereafter the trans-shipping of grain from the Northwest for Europe will be done at Kingston.

The steamer J. Emery Owen had 1,600 bushels of wheat damaged by water. The discovery was made upon its arrival at Buffalo.

Large vessels can now pass over the bar at the entrance to Greytown Harbor, thus facilitating the work of constructing the Nicaragua Canal.

Shippers offered one cent per bushel on corn from Chicago to Buffalo, but the vesselmen could not take it except at a loss. A few small lots have been taken at 1½ cents.

The Canadian canal system makes available a water communication west of Montreal of 2,260 miles, of which 70½ are traversed by canals, with 53 locks, overcoming a total height of 533 feet.

The Detroit River will not be bridged by the Michigan Central, as the Michigan and Canada Tunnel Company will build for it a railway tunnel connecting Detroit, Mich., and Windsor, Ont.

The government will take charge of the Portage Lake Canal, through which much of Lake Superior's commerce passes. The tolls will end, and at the same time the government will begin improvements.

California will derive the utmost benefit from the Nicaragua Canal when completed. The export trade in wheat will be greatly benefited by the reduction of a hazardous voyage of over four months to twenty five days.

The railroads have cut grain rates from Buffalo east down so low that the canal boatmen could not get more than 2½ cents on wheat to New York recently, and did not get much even then, as the railroads are taking nearly all.

The grain trimmers at Chicago are angry because several of the grain boats have trimmed their cargoes with either their own crews or inexperienced men. The elevator foremen say that such work will result in short cargoes.

Steam vessels comprise five sixths of the value and nearly one third of the tonnage of the entire floating craft on the Great Lakes. Four hundred and thirty-three propellers, valued at \$23,000,000, are employed in the freight traffic exclusively.

The whale-back steamer, Joseph L. Colby, and barges left Superior, Wis., recently with 312,800 bushels of wheat, and were unloaded at Buffalo, N. Y. The whale-backs will pass down the St. Lawrence River into the Atlantic Ocean to enter the coal trade between Baltimore and Boston.

Statements have been made that the work of building the new lock would interfere with the navigation of the Sault Canal. These fears were not well founded, as the government engineers have foreseen all possible accidents and taken measures to prevent the utility of the canal being destroyed.

It is much to be desired that the enlarged waterway connecting the great lakes and the Atlantic Ocean be constructed before many years have elapsed. For the United States may not always remain a grain exporting country, and cheap transportation is of value only when we have freight to ship.

Mr. Simon Stevens of New York, late president of the Tehuantepec Railway and Ship Canal Company, has prepared a plan providing that the United States and Mexico shall jointly guarantee \$100,000,000 2 per cent. bonds to equip the canal and railway connecting the Gulf of Mexico with the Pacific Ocean.

Some vessel owners are running their boats as charitable institutions. A vessel left Chicago recently for Duluth to load wheat for Buffalo at two cents a bushel. The vesselman explained, "We had a remarkably good crew, and it was a shame to discharge them, so we took that load simply to give them work."

The special investigating committee appointed by the New York State Assembly to look into the affairs of the canal department has just commenced work. As no charges of misuse of funds have been made, the committee will simply make a complete exhibit of the workings of the department for the past eight or nine years.

Insurance on grain cargoes has been advanced by the local marine underwriting boards at Chicago to the following rate: To Lake Michigan ports, 25; to Lake Superior ports, 40; to Huron, Sarnia and Detroit River, 25; to Georgian Bay ports, 30; to Lake Erie ports, 30; Lake Ontario ports, 40; to Ogdensburg, 40, and to Montreal, 50.

United States District Attorney Milchrist at Chicago has prepared an opinion in which he declares the Illinois River a navigable water of the United States, as also the Illinois & Michigan Canal, the latter being part of a continuous navigable waterway from the lakes to the Mississippi River and the Gulf of Mexico. This being true, the Federal Government has control in a general way, and can remove any present obstructions, the bridge at

Canal street in Chicago, for instance. That bridge is a serious obstruction to vessels carrying grain from the elevators on the south branch of the river.

Recent advices from San Francisco state that owners of vessel tonnage are not inclined to accept current offers, believing that there will be a large demand at better rates when the new crop commences to move. A few ships have been chartered for the new crop. Extensive forward chartering is a feature of the situation; indeed, some ships have been taken as far ahead as March.

The steamer Niko, with a cargo of 44,000 bushels of corn from Chicago to Buffalo, was found to be short 110 bushels. At the low freight rate of 1¼ cents per bushel, this is very hard on the owners of the boat, who receive \$495 for carrying, and are compelled to pay out about \$60 to \$70 on account of the shortage. It is possible that the scales at Chicago or Buffalo may be in a bad "weigh," more probably at Buffalo, as the tainted moral atmosphere of the elevator combination may have affected its weighmen.

Chas. J. Mann's floating elevator Cyclone, which has been doing business at half the rates charged by the Buffalo elevator combination, does not work well. It took out 11,000 bushels of the wheat cargo of the Golden Age, and then gave out. The performance was repeated in the case of the barge Allegheny, May 21. The "Cyclone" elevated 24,000 bushels in forty-eight hours, when the barge was taken to a regular elevator to unload the remaining 18,000 bushels. A fire afterward damaged the "Cyclone" to the extent of \$1,500.

Latest Decisions.

Forfeiture Deposit in Employment Contract.

In the case of Walls vs. Coleman the Supreme Court of New York decided that a provision in a contract of services that a certain sum per week be held back from the wages of the employe, to be forfeited if he leaves before the close of the season for which he was employed without being discharged is not unreasonable, and an employe leaving voluntarily cannot recover such sum.

Rights of Payee of Check.

The drawer of a check had a deposit more than sufficient to pay it when drawn. Before presented the bank had assigned for the benefit of creditors, as had also the drawer of the check, and payment was refused. The holder could not recover judgment against the bank, or its assignees, or the assignees of the drawer, but only against the drawer with an adjudication that the dividends paid by the assignees on account of the deposit be applied *pro rata* to the payment of the judgment.—*Haines vs. Blackwell*, Supreme Court of North Carolina.

Authority of Sales Agent.

The Texas Court of Appeals has decided in the case of the Taylor Manufacturing Company vs. Brown that where certain goods were ordered from a traveling salesman, who by agreement signed with his own name, agreed to deliver goods "at list price less 10 per cent. rebate to be paid by himself in person," and the reason assigned for paying the rebate in person was that he did not wish it known that his house was discounting the "pool" prices, the fact that he was authorized to sell at list prices only, his promise to give a rebate did not bind his principals and the purchaser would be liable for the goods at the list price.

Statement of Mercantile Agency.

In the case of the Cortland Mfg. Co., Limited, vs. Platt, the Supreme Court of Michigan has decided that where a merchant makes a statement of the condition of his affairs to a mercantile agency, which is true at the time it was made, he is not bound to notify the agency of a change for the worse in his affairs short of absolute insolvency, and the fact that he does not will not support a charge of fraud in favor of those who sell him goods on the strength of his former statement after that statement had ceased to be true. A person selling goods to another upon the strength of a mercantile agency report is bound to take notice of the fact that the affairs of a business man are subject to changing conditions, and if he relies upon an old report he must take his chances as to its correctness at the time he uses it.

Defective Proof of Fire Loss.

The Supreme Court of South Dakota has decided in the case of Peet vs. the Dakota F. and M. Insurance Company that when there are defects in the proofs of loss, whether formal, substantial, or indeed, in any respect, which could have supplied if specific objections had been made thereto by the underwriters, a failure on their part to object to the proofs on that ground, or to point out the specific defect, or call for information omitted within a reasonable time is considered a waiver, however defective, informal, or insufficient such proofs may be. If it is essential for an underwriter to know by what title the insured holds the property insured, that inquiry should be made at the time of issuing the policy, and not deferred until after a loss has occurred. Whenever there has been a change of occupancy or of business, or the erection of additional buildings adjoining or near by the

insured property, the question whether there has been a material increase in the risk or not, is a question of fact to be determined by the jury, but whether an increase of risk avoids the liability of the insurer is a question of law for the court.

Penalties for Overcharge by Railroad Companies.

Under a statute of Texas, denouncing a penalty of \$500 against a railroad company exacting higher rates of freight than the maximum rate fixed by law, a company which receives freight and delivers it to a connecting carrier, is not liable to the penalty because of an overcharge by the latter company. A railroad company is not liable to the penalty prescribed for detaining freight after payment or tender of the charges as shown by the bill of lading, when the freight is detained by a connecting line to which it has been delivered together with the bill of lading.—*Gulf, Colorado & S. F. Ry. Co. vs. Adair*, Court of Appeals of Texas.

Abandonment of Lease.

The Supreme Court of Wisconsin recently decided in the case of Kneeland vs. Schmidt that where a tenant, before the expiration of his lease, notifies his lessor that he can no longer pay the rent and abandons the premises and the lessor without having stated whether he would accept the surrender, takes exclusive possession, it amounts to an acceptance. In an action for rent accruing after abandonment, an allegation in the answer that the lease was surrendered by mutual agreement authorizes evidence that the lessor took actual possession of the premises soon after the lessee abandoned them, since it may be inferred that he accepted the abandonment by the lessee.

Contract for Freight Rebate—Railroad Pooling.

A contract of shipment is not rendered illegal by the single fact that the carrier gives the shipper a special rate to be carried into effect by means of a rebate; and in order to defeat the shipper's action for the rebate the carrier must show that the special rate is an unjust, unfair, or oppressive discrimination in favor of the shipper against the general public. A pooling arrangement entered into between rival railroad companies fixing freight rates is *prima facie* illegal; and one of the companies which agreed to give the shipper a rebate, in violation of the pooling contract, must affirmatively show that the pool was formed to prevent ruinous competition, and not to establish unreasonable rates, unjust discrimination, or oppressive regulations before it can rely on the shipper's knowledge of the pool rates as a defense to an action for the rebate.—*Cleveland C. & I. Ry. Co. vs. Glosser*, Supreme Court of Indiana.

OBITUARY

W. J. Herren of Salem, Ore., died April 13.

George Heck of George Heck & Son, grain dealers at New Orleans, La., is dead.

J. C. Gault, a wheat speculator, was stricken with apoplexy on the trading floor of the Chicago Board of Trade May 15.

J. H. Teasdale, who has dealt in grain at St. Louis, Mo., for the past thirty years, died May 12, aged 74 years. His sons will continue the business.

SMUT IN INDIANA WHEAT.

Smut has affected wheat in some parts of Indiana. The Gold Dust variety suffers more than other kinds of wheat. The disease is yet in an early stage and it may not make much difference in the yield of the crop. Black powder seen on the heads of the wheat is composed of the spores or seeds which produce the fungus. The roots of this fungus plant penetrate the wheat and blight the kernels. Heavy rains sometimes wash the black spores off the wheat, doing much to prevent serious damage. If smutty seed is used for sowing it should be treated to a hot solution of copperas or blue vitriol in water immediately before sowing.

A LARGE AND BLOOMING COUNTRY.

We are often reminded of the fact that this is a large country, and that it has many varieties of climate. We learn from Texas that wheat harvesting has begun there, and that the crops are abundant throughout the state. We learn from Kansas that the grain and corn crops there are growing well under the May rains, and give promise of good harvests. We learn from North Dakota that the grain is up and sprouting there, and that the prospects are favorable, though harvesting will be late. We learn from some other parts of the Northwest that wheat is not yet out of the ground.

Thus, while the farmers of Texas are gathering in their crops at the close of May, those of the far North are awaiting the harvest that will be reaped months hence. It is a large and blooming country.—*New York Sun*.

ELEVATOR AND GRAIN NEWS

Ruby, Wash., is to have a brewery.

A rice mill is to be built at Leory, Fla.

A flax mill is talked of at Austin, Minn.

A grain elevator is being built at Boone, Ia.

Sheffield, Ala., is to have a \$50,000 brewery.

A grain elevator has been built at Shelby, Mich.

W. C. Hall will build an elevator at Brazil, Ind.

A new grain elevator is being built at Dorehester, Neb.

George Walther will build a brewery at Appleton, Wis.

Stocker & Roehrich are building a brewery at Reading, Pa.

O. T. Hulburt, grain dealer at Avoca, Neb., has sold out.

W. C. Starbuck, grain dealer at Lima, O., has sold out.

Fred Krug is building a large brewery plant at Omaha, Neb.

Geo. Grauer is building a brewery at Ridgewood, N. Y.

J. M. Dorion, grain dealer at Stayuerville, Que., has failed.

The new oil mill at Caldwell, Tex., has been completed.

A brewery has been built at Kingston, N. Y., by Mary Kiernan.

The Farmers' Alliance will build an elevator at Minden, Neb.

H. Leonhardt & Bro. have built a brewery at Forestville, Mich.

Jacob Dobmeier is building a brewery at East Grand Forks, Minn.

A cotton-seed oil mill, costing \$125,000, is being built at Paris, Tex.

The Grain Shovelers' Union at Buffalo, N. Y., elected officers May 15.

A grain elevator will be built at Abilene, Tex., by a stock company.

Send us all the news of your district for publication in this department.

The Scranton Brewing Company of Scranton, Pa., will build a brewery.

T. B. Boughton, dealer in grain and coal at Sandusky, O., has sold out.

The Phoenix Brewing Company is building a brewery at Pittsburg, Pa.

The Gurndon Brewing Company has built a brewery at Plattsburg, N. Y.

The Hillsborough Warehouse Company at Hillsborough, Ore., has sold out.

The American Brewery Company has built a brewery at New Orleans, La.

A brewery is being built at St. Louis, Mo., by the Griesedieck Brothers.

S. K. Davis & Co., grain dealers at Beatrice, Neb., have dissolved partnership.

The Auheuser-Busch Brewing Association is building a brewery at Joplin, Mo.

W. M. Smith will build a 50,000-bushel elevator at Portage la Prairie, Man.

Robert Cooper, dealer in grain, flour and feed at Welland, Ont., has sold out.

A grain elevator will be built at Albany, Tex., by the Albany Milling Company.

Watkins & Co., dealers in grain and coal at Peoria, Ill., have dissolved partnership.

Geuing & Beardsley, hay dealers at Ithaca, N. Y., have dissolved partnership.

Granger & Son, dealers in grain, lumber and stock at Vincent, Ia., have sold out.

Carl Eberle will rebuild his brewery at Jackson, Mich., which was burned recently.

A new elevator is being built at Boissevain, Man., by the Ogilvie Milling Company.

Mr. Graves of Seueca, is building a grain elevator at Coyne Station, La Salle Co., Ill.

The Craig Grain, Lumber and Implement Company of Craig, Neb., has been dissolved.

The Midland Elevator Company of Kansas City, Mo., has increased its capital stock from \$150,000 to \$500,000.

That company operates the Peavey elevator at Kansas City.

The Upper Michigan Brewing Company has built a brewery at Iron Mountain, Mich.

The Ellis County Seed Oil Company of Waxahachie, Tex., will build a cotton-seed oil mill.

The Waupun Flax Mill has been incorporated at Waupun, Wis., with \$10,000 capital stock.

A 500,000-bushel elevator is being built at Toledo, O., in connection with C. L. Cutter's mill.

J. T. Hayes, dealer in grain and lumber at Williams, Ia., has been succeeded by J. T. Wilde.

Norton & Dickson, dealers in grain and produce at Ogden, Utah, have dissolved partnership.

C. E. Nichols & Co., grain and hay commission dealers of Chicago, Ill., have dissolved partnership.

E. H. Luke & Son, dealers in grain and hay at Cambridgeport, Mass., have dissolved partnership.

A 30,000-bushel elevator is being built at Grand Forks, N. D., by the North Dakota Milling Company.

The O'Donnell & Duer Bavarian Brewing Company is building a brewery at Chicago, to cost \$245,000.

The Wisconsin Free Malting Company has been incorporated at Milwaukee, with \$200,000 capital stock.

A company has been organized at Le Compte, La., to build a cotton-seed oil mill. Capital stock \$25,000.

Bassett & Bunker, grain commission dealers at San Francisco, Cal., have been succeeded by M. Kaelish.

The Western Flour and Grain Company has been incorporated at Kansas City, Mo., with \$5,000 capital.

D. & C. P. Stevens, grain and flour dealers at Worcester, Mass., have been succeeded by George A. Stevens.

A 100,000-bushel grain elevator has been built at Fayetteville, N. C., by the Fayetteville Milling Company.

The Inter-State Grain Company is rebuilding its 20,000-bushel elevator at Lyle, Minn., which burned recently.

McCarthy & Harding, commission dealers in grain and flour at San Francisco, Cal., have dissolved partnership.

McCaron Bros., proprietors of an elevator and general store at Carsonville, Mich., have dissolved partnership.

The Dillon Grain and Lumber Company of Missoula, Mont., has been succeeded by the State Lumber Company.

Fred A. Willcox has retired from the firm Charles M. Cox & Co., dealers in grain and feed at Boston, Mass.

Hunting & Co., whose warehouse at Lyle, Minn., was burned recently, will rebuild with 15,000 bushels' capacity.

The Neepawa Farmers' Elevator Company has been incorporated at Neepawa, Man., with a capital stock of \$15,000.

Thompson & Rowland, dealers in grain and implements at Sutherland, Ia., have been succeeded by Rowland Bros.

Ralph W. Thacher has been admitted into partnership with W. S. Wallace, grain dealer and exporter of New York City.

A 140,000-bushel grain elevator will be built at West Superior, Wis., by the recently incorporated Freeman Milling Company.

A 25,000-bushel elevator will be built at La Salle, Man., by Mercier & Girward, if the proposed bonus of \$5,000 for their mill is granted.

Wm. Robertson and T. G. Thompson have entered the grain business at Winnipeg, Man., under the firm name Robertson, Thompson & Co.

The city council of Fort Dodge, Ia., has accepted the proposition of R. W. Crawford to build an oil mill in that city at a cost of \$25,000.

The price of the standard small pulleys made by the Menasha Wood Split Pulley Company of Menasha, Wis., has been reduced about one-half.

H. H. Clark is building a linseed oil mill at Fredonia, Kan. The mill will have twenty presses. It is the only one of the kind in Southern Kansas.

The first car of grain shipped from the Northern Saskatchewan county was a load of good quality oats sold by Mr. Macleod of Prince Albert, at Winnipeg, recently.

The Johnson-Brinkman Commission Company is building a 100,000-bushel grain elevator at Rosedale, Kan., to cost about \$20,000. It will be 40x98 feet, and fifty feet high.

Fisk, Bennett & Co. will build a 125,000 bushel elevator at South Chicago, on the Calumet River. It will be 113x36 feet, and four stories high. The Chase Elevator Co., of Chicago, have the contract.

An old linseed oil mill at Kankakee, Ill., was remodeled for a castor oil mill last fall, and 30,000 bushels of beans were accumulated to commence operations with. Recently, when an attempt was made to start the mill, it

was found that the flaxseed machinery could not be used for beans, so the enterprise will have to be abandoned or new machinery put in.

The Chicago Commission Company has been incorporated at Chicago to deal in grain. Capital stock \$25,000; incorporators, G. C. Storer, H. D. Ward and T. E. Bagnell.

Mr. Abbott, a grain buyer of Chenoa, Ill., was charged by a farmer with dishonesty in weighing grain. Abbott has begun suit in the McLean Circuit Court for \$10,000 damages.

Ten new elevators will be built by Osborne & McMillan on the proposed line of the Soo road from Hankinson to Valley City, S. D., when the branch is constructed.

Gerhard Kracke's grain warehouse at Davenport, Ia., was closed May 13, in consequence of his failure which was caused by speculation in barley. He dealt heavily and lost large sums.

Tromanouser Bros., elevator builders of Minneapolis, Minn., have been awarded the contract to rebuild the elevator of Woodworth & Godfrey at Minneapolis, which was burned some time ago.

Kelley Bros. of Kissimmee, Fla., have commenced the erection of a rice mill to clean the rice raised on their large new rice farm. The mill, when completed, will be 45 feet wide, 160 feet long and four stories high.

A Moscow, Ia., correspondent says: Our popular buyers, Overman Bros. and Fred Shafnet, aim to keep the prices of the farmers' grain up to the highest notch, and do not propose to let other places overbid them.

Six elevators will be built in Manitoba this season by the Lake of the Woods Milling Company. Each house will have a capacity of 35,000 bushels. The contract for the first one has been awarded. It will be built at Methven.

Seeley, Son & Co. of Fremont, Neb., builders of the "Seeley" grain elevator, have been awarded the contract of Edward W. Kruse & Co. of Higginsville, Mo., for one of their elevators. It will have a capacity of 15,000 bushels.

W. F. Myers of Wells, Minn., applied to the railway commissioners for an order to the Chicago, Milwaukee & St. Paul Railroad to build a sidetrack to a barn used as a storehouse. The order was not given, as the building was not of a proper character.

The Frankfort Farmers' Elevator Company has been incorporated at Frankfort Station, Will Co., Ill., to deal in merchandise. Capital stock \$8,000; incorporators, J. Kohlhausen, F. L. Hazenjaeger, C. E. Holstein, F. Marquardt, F. Hinspeter, F. Woel and C. Karch.

Oscar Clapp, cashier and treasurer for Annan & Co., the elevator owners of New York City, recently eloped with a Miss McNamara, a school teacher. Clapp is 40 years of age, married, and the father of two sons aged 19 and 16 years. Annan & Co. say it is impossible that he could have taken any of the firm's money.

The Kaukauna Paper Company of Kaukauna, Wis., D. & J. Gilles, Dearbrook, Wis., J. W. Seymour, Kissimmee, Fla., H. Utsch, Little Falls, Minn., and Chas. A. Mueller, Port Washington, Wis., have recently placed their orders with the Menasha Wood Split Pulley Company of Menasha, Wis., for hickory pulleys.

There is no foundation for the report that the Chicago people who are interested in grain elevators in Tacoma intend extending their system this year. McNear, the San Francisco grain merchant, contemplates the erection of a chain of grain elevators in the state of Washington this summer. The investment is too remote from Chicago to be altogether inviting.—*Economist, Chicago.*



W. W. Bill will move to Minneapolis from Duluth, where he has been engaged in the grain trade.

D. Bawlf, grain dealer of Winnipeg, Man., will move to Minneapolis, Minn., and follow the same business. He is a brother of N. Bawlf, the Winnipeg grain dealer.

Mr. Klein, a London director of Pillsbury-Washburn Company, recently spent a week examining the elevators of the company on the Great Northern Railway System.

Pierre Rosseel, a grain dealer of Buffalo, N. Y., recently returned from a trip around the world and has formed a partnership with Wm. Meadows, president of the Metropolitan Bank, as Wm. Meadows & Co.

Charles W. Tracey, the Minneapolis grain dealer, has accepted a position as secretary of the Pacific Elevator Company and will move to Portland, Ore. As Mr. Tracey satisfactorily superintended elevators A1 and A2 for twelve years his services will, no doubt, prove of great value to his new employer.

PRESS COMMENT.

WASTING VALUABLE TIME.

"Millions of American citizens," says Senator Peffer's paper, the *Kansas Farmer*, "in their organized capacity as farmers, are anxiously awaiting legislation that will relieve them from the depressing conditions that surround them." And that's just what's the matter with the farmers. If they will employ the valuable time they are wasting while "awaiting legislation" in making of themselves good farmers, they will be more likely to find the "relief" they seek.—*Implement Farm Journal*.

WHEAT WILL BE DEARER.

If, as at present seems likely, the price of wheat is to rule much higher in the future than it has done in recent years, some other considerations arise. The production of this cereal in England, in the eastern counties especially, will increase to a substantial extent. There will also be a much larger import from India, unless a rise in Eastern exchange should prevent it. In any case, however, the probability is that wheat will be dearer than it has been in recent years.—*Liverpool Corn Trade News*.

SHOULD BE TAKEN INTO ACCOUNT.

While Paris is at this moment the center of the present monetary troubles, Paris is also the center for the Continent of bull wheat speculation. The merits of wheat for the time being must be cutting very little figure, with the Paris merchant long on wheat at home, in California, atloat or in New York. With him it must not be a question whether the wheat is cheap and likely to pay a profit, but whether the ordinary banking arrangements can be made. The possible effect of disturbed finances should be taken into account by every discreet person.—*Chicago Herald*.

THEY THREW THE GAME.

Great surprise was created by the recent action of the Kansas City grain men in withdrawing their complaint against the through lines of railroad for discriminating against this market, just at the time when the case was to come before the Inter-state Commerce Commission. Everybody had been looking forward to a decision by the commission which should give to Kansas City what it asked in the way of an equitable adjustment of rates—for it was generally conceded that the grain men had a sure thing—and this sudden dropping of the case was the last thing looked for.—*Modern Miller, Kansas City, Mo.*

LET US SING "HAIL COLUMBIA."

The American citizen who can complain at the promise of the future must be an unhappy individual. We have good prospects for an abundant wheat crop, and an even chance for corn and hay. Oats may be short. Fruit has only been cut in vicinities. A good foreign demand for all we have to sell is almost an assured condition. We have been paying our debts with gold, occasioned by excessive importations. When our products begin to move toward Europe this gold will come back to us. We have lent it, for a while, to the old and hardup monarchies abroad, but it will all come back. Everybody should be happy. Let us sing "Hail Columbia."—*Toledo Market Report*.

INDIAN AND RUSSIAN EXPORTS ASSISTED BY EXCHANGE.

The rupee is down to 1s. 5d., and the rouble to 2.41 marks, while bar silver is selling at 44d. per ounce. These are prices which encourage grain exportation. They are altogether lower than had been expected, but the large stock of silver accumulated in America has to be worked through before the increased use of the metal in the United States can operate fully in sustaining value. The present season, with cheap silver and with an imperial average over 40s., may see India do a good deal in the way of shipments, but the present depression of the rupee has by no means the helplessness about it of some years since, and the yield of wheat in our Indian dominions this season has been beyond what on average expectations we are entitled to assume.—*The Miller, London*.

THE KANSAS CITY GRAIN MEN.

The Kansas City grain men are reported to have withdrawn their complaint against the through lines of railroads for discriminating against them by means of high local rates from the grain fields of the further West. It is said the railroads have given evidence of their desire to treat the merchants of that city fairly, and so the fight is given up. It is well that all injustice should be abolished, but this would hardly be done by accepting strictly the terms named by the *Kansas City Journal*. It says: "Until the sum of the locals is made to equal the through rates, Kansas City will not have justice from the railroads." Chicago men have never been able to obtain this concession, and most of them think it unfair to demand it. The correct principle to apply there, here and everywhere is that the difference between through and local rates for transportation over any named line shall be no greater than sufficient to remunerate the carrier for the extra trouble or delay involved in the latter. When railroad

managers show themselves able to recognize this principle of operation, and act on it, they will be doing their strict duty to all sections of the country and all individuals in the community.—*Chicago Tribune*.

WANT OUR WHEAT.

Whatever the reason may be, nearly all the wheat importing countries of Europe just now seem to be showing an especial appreciation of our wheat, and the amount which is passing out of the chief Atlantic ports is very remarkable. Whether this enormous movement is due altogether to the fear of bad crops in Europe, or whether, as has been alleged, continental countries are endeavoring to place themselves on a war footing, and thus desire to have large supplies ahead, is hardly clear. The former is, however, the more sensible supposition, though it may be very possible that the prospect of war has something to do with the movement. By all accounts crop prospects are less than fair in Europe, while it can hardly be said that they are above the average in the United States and Canada.—*Northwestern Miller*.

LARGE INDIAN EXPORTS.

There is a large amount of wheat exported from India since the harvest was concluded. Large contracts have been made for it, and the claim is that all the Indian surplus is under contract. There are numbers of people, speculators among them, who bought wheat on this report a few weeks ago, and now, as they see so much wheat moving from that country they are paralyzed. The trouble with them was that when they saw that wheat was all sold they took it to mean that the reserve had all been shipped. The demand that caused it to be bought so early shows it to be extraordinary. So there does not seem to be any reason for depression on account of the large movement. The earlier it is moved the earlier it will be consumed. Then the sight of it as a competition will no longer menace buyers of our surplus, with the possibility of demoralization in meeting it.—*Minneapolis Market Record*.

WHEAT GROWING NOT DECLINING IN EUROPE.

In a recent report Statistician Dodge of the Agricultural Department said: A fallacy relative to cereal production is that it is declining perceptibly in Europe. There are annual fluctuations, but no material change. The following statement of the last five years includes the final official estimate of each European country which makes annual estimates, except as to 1890, in which case there are some preliminary estimates: [Details omitted, aggregates copied.]

	Bushels.
1886.....	1,092,773,206
1887.....	1,351,549,399
1888.....	1,256,781,583
1889.....	1,100,428,099
1890.....	1,293,834,519

The average of these five years is 1,219 million bushels, while that of the five preceding years gives no larger figures; and the investigation in 1873 by the European Statistical Commission produced a similar result. It should be remembered, however, that Poland, Finland, European Turkey, Bulgaria, Roumelia and certain principalities having an area of more than 320,000 square miles, are not included. There is reason to believe that the average production of wheat of these countries exceeds 25,000,000 bushels. The real average of wheat production in the last five years may be fairly stated in round numbers at 1,250 million bushels.

There is no apparent change in the European aggregate of production. France is remarkably uniform in area and comparatively so in product, the latter fluctuating somewhat from meteorological causes. Russia, which some appear to think is declining in production, tends to improvement in yield per acre, as shown by discriminating examination of the inevitable fluctuations of yields from natural causes. Small reliance can be placed on statements of changes of areas of Russian cereals. Official figures, except in very recent years, seem to be the result of arbitrary estimate for a period, not an annual estimate, much less a census. During twenty years past, whether for a single year, a five years' or a ten years' average, the area of wheat, as stated in desastines, is equivalent to nearly 29,000,000 acres. In rye the average for ten years from 1870 is about 64,000,000 acres, with an increase of about half a million acres for 1881 and for the period 1883-'87, though the figures for the year 1870 exceed 66,000,000 acres. In barley, averaged at 15,317,000 acres for ten years from 1870, all later aggregates of area are less by nearly 3,000,000. In oats an increase of about 2,000,000 is made in all later exhibits of area. It is evident that there are no means of very close comparison of area, from which practical deductions may be made.

It is to be hoped that the investigation of the Duluth elevators will not stop till it is learned why that port sends us so many more short wheat cargoes than all other ports together.—*Buffalo Correspondent Northwestern Miller*.

The visible supply of grain on Saturday, June 6, as compiled by the New York Produce Exchange, was as follows: Wheat, 16,477,405, decrease, 1,015,318; corn, 5,605,887, increase, 453,149; oats, 4,549,391; increase, 305,825; barley, 304,850, decrease, 30,412; rye, 146,274.

Fires, Casualties, Etc.

William Cook's brewery at Kernville, Cal., was burned recently.

F. H. Peavey & Co.'s elevator at Belle Plaine, Ia., has been burned. Loss \$25,000.

The Red River Valley Elevator Company's building at Mayville, N. D., was burned April 27.

Henry C. Shaffer's elevator at Lorena, Tex., has been burned. Loss \$6,000; insurance \$1,350.

Malt dust exploded in Fitzgerald Bros.' brewery at Troy, N. Y., recently, doing little damage.

The Montana Elevator at Bozeman, Mont., was burned May 14. Loss \$75,000; insurance \$50,000.

John H. Schneider's brewery at Cleveland, O., has been burned. Loss \$125,000; insurance \$47,000.

Shussler Bros.' brewery at Fond du Lac, Wis., was burned May 29. Loss \$5,000; insurance \$3,000.

The distillery of the Monticello Wine Company at Charlottesville, Va., was burned recently. Not insured.

The Artesian Elevator and Flour Mills of W. H. Culpepper at Albany, Ga., were burned recently. Loss \$15,000.

The grain elevator of Perry G. Jones at Cisco, Ill., was burned on the afternoon of May 18. Loss about \$9,000.

The elevator of the Minnesota and Dakota Elevator Company at Barry Station, Minn., was burned at night, May 18.

The malthouse and main building of Morton's brewery at Cincinnati, O., were burned May 14. Loss \$90,000; insured.

An explosion of malt dust in James Everard's brewery in New York City damaged the building to the amount of \$300.

The steam elevator and flour mill at Wahpeton, N. D., owned by Dunn & Thompson of Duluth, Minn., were burned at 2 p. m., May 30.

John York's malt house at North Rose, N. Y., was destroyed by fire May 14, together with 50,000 bushels of malt. Loss on building \$45,000; insurance \$25,000.

A steam shovel caught the closet pipe of the steamer Monteagle while unloading corn at Erie, Pa. The water poured in and damaged 500 bushels of the grain before the flow was stopped.

Tro's brewery at Newark, N. J., was damaged by fire June 1, to the extent of \$5,000. A nail or a piece of flint passing through the mill that grinds the malt threw a spark into the dusty grain and set it on fire.

Transfer Elevator No. 2, owned by the Montreal Transportation Company, sank at her dock in Kingston, Ont., on the night of May 29. It is supposed that a pipe broke or the sea cock was left open and allowed the water to flow in.

The elevator and grist mill of Thomas Heiler at Buffalo, Minn., was burned to the ground May 31. Several thousand bushels of grain was stored in the elevator. Loss \$12,000; partly insured. A stroke of lightning is supposed to have been the cause.

The Hubbard & Gore linseed oil mill at Sioux City, Ia., owned by the National Linseed Oil Co., was burned on the morning of May 20. The mill was completely destroyed, but the elevator, containing 25,000 bushels of flaxseed, was saved. Loss \$45,000; fully insured. It will be rebuilt.

The machinery of the Niagara "A" elevator at Buffalo, N. Y., stopped running on the night of May 25 on account of the breaking down of the main engine. The house contained half a million bushels grain which can not be shipped out. No storage is to be charged after the grain is ordered out.

Mann's floating transfer elevator "Cyclone" at Buffalo, N. Y., was damaged to the extent of \$1,500 by a fire caused by a lamp. The elevator rigged up on the dock caught fire while the workmen were adjusting a new rubber belt. This is the fourth accident which has happened to the elevator.

Elevator A at Fosterla, O., owned by the Isaac Harter Milling Company, was damaged by a fire in the cupola on the night of May 1. The fire was extinguished after six hours by the automatic sprinklers and fire pump. The building was slightly damaged and 25,000 bushels of wheat were wet. Loss about \$500; insured.

The old Pillsbury elevator at Alexandria, Minn., was partly destroyed by a fire at 11 o'clock p. m. May 15. The main building was saved in a damaged condition; but the engine house and contents are a total loss. The building was unused for over a year and the cause of the fire is unknown. Incendiarism is suspected.

The grain elevator of Armstrong & Co. at Beason, Ill., was destroyed by an incendiary fire early in the morning of May 29. The loss on the elevator and the 4,000 bushels of oats and corn it contained is \$14,000. The flames extended to a long row of cribs in which 40,000 bushels of old corn was stored, increasing the loss to \$38,000. No insurance.

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CLARK'S GRAIN TABLES.—This work is published in several different forms, for use in different lines of business. In these tables pounds are reduced to bushels, so that a buyer can quickly determine the correct number of bushels in a load without doing any figuring. Their use effects a saving every day of more than time enough to pay for them. The edition intended principally for reducing team scale weights to bushels contains nine tables, and is bound in paper. Price 50 cents. This will be found invaluable to country buyers. A new edition, intended for shippers and commission merchants, reduces any quantity up to 64,000 pounds to bushels. It contains sixteen tables, and is neatly bound in leatherette. Price.....\$1.50

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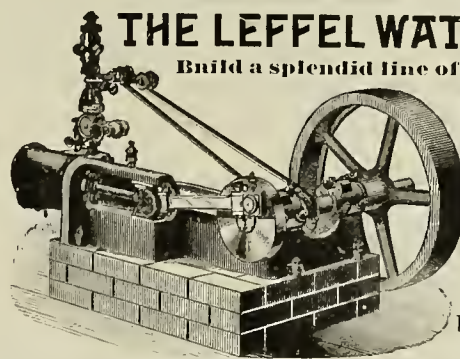
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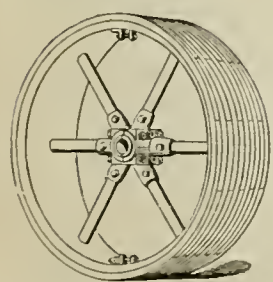
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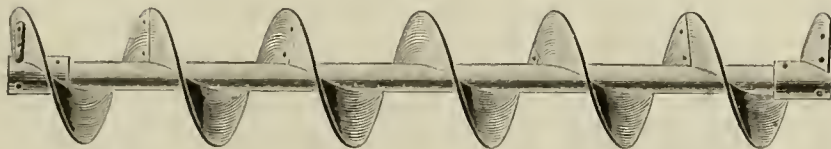
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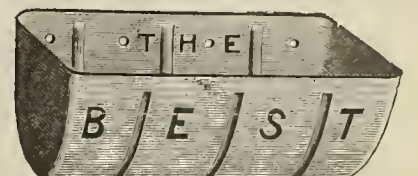
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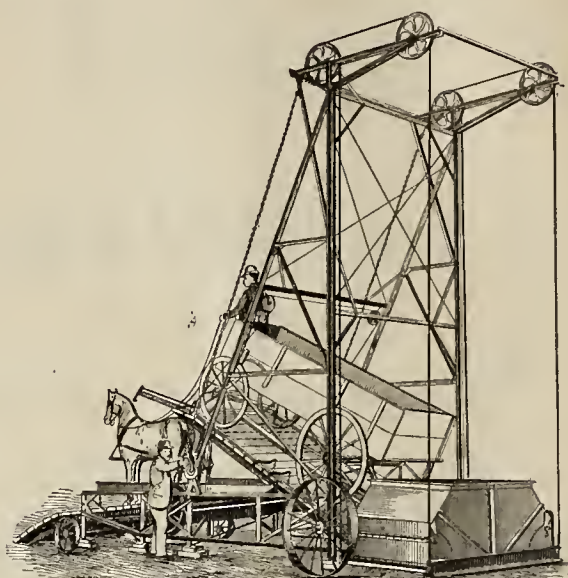
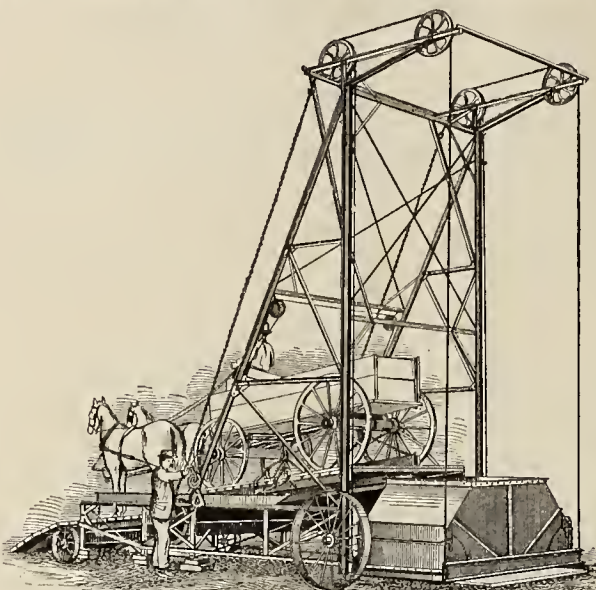
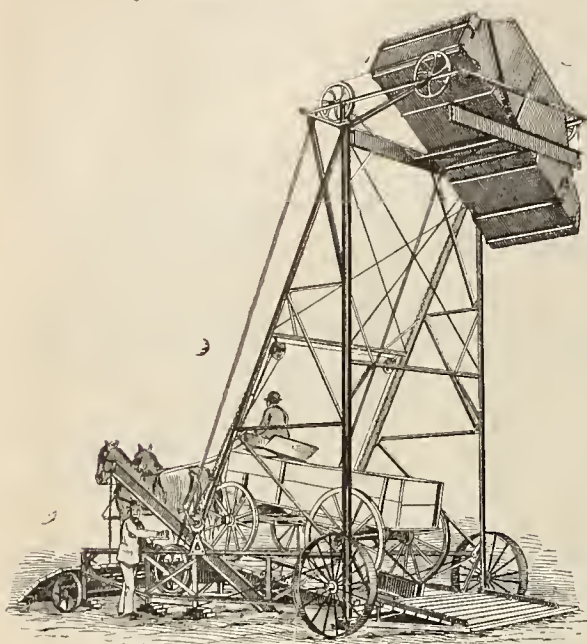


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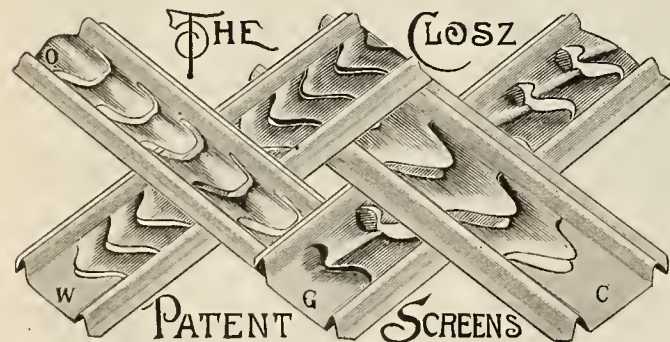
Your Portable Elevator works smoothly and well, and to our entire satisfaction. We have stored 40,000 bushels of oats with it, 30,000 bushels of which were handled in four weeks, and 2,500 bushels in one day. Much more could have been handled with ease. The heaviest load was 109 bushels. Our buildings are each 20x120 feet, 12 feet studding and the machine fills them to the collar beam by making but three openings in the roof. Our man handles it easily, although he is not a mechanic, and two horses have moved it without trouble. Farmers say they had rather dump on it than on the two rail dump. We were doubtful at first that it would work, but we are now more than satisfied with it. We could not well do without it as we would have to shovel the oats twice to fill the buildings once from the wagon and again inside the building. It not only does the work better and in less time, but saves quite an expense and wastes no grain. We assure you we cannot speak too highly of it, as it fully fills your claims for it.

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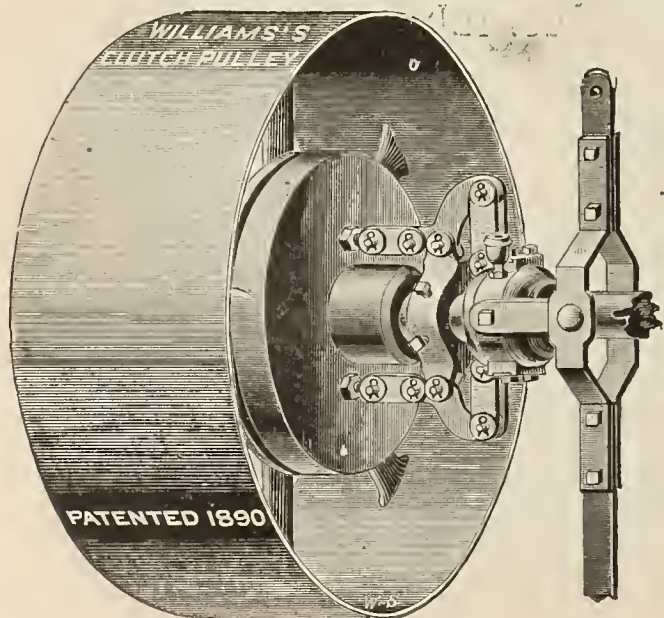
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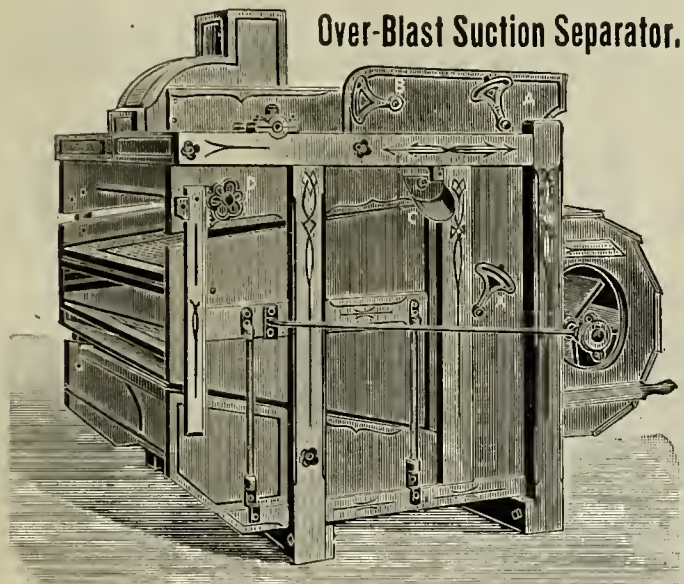
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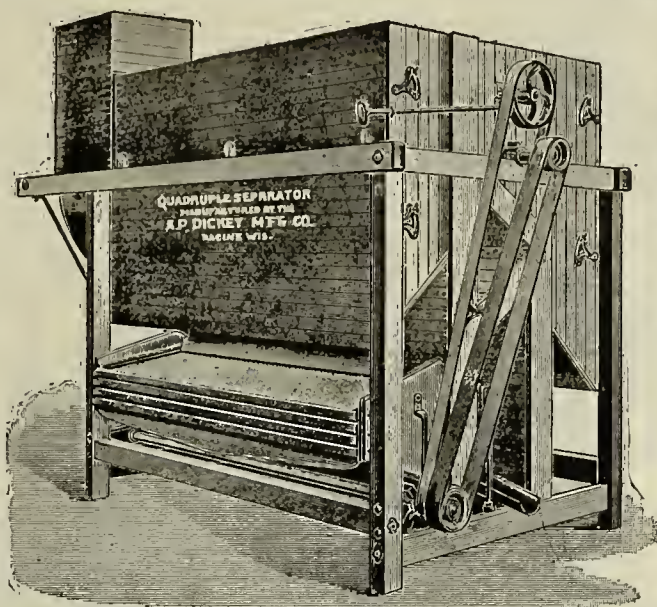
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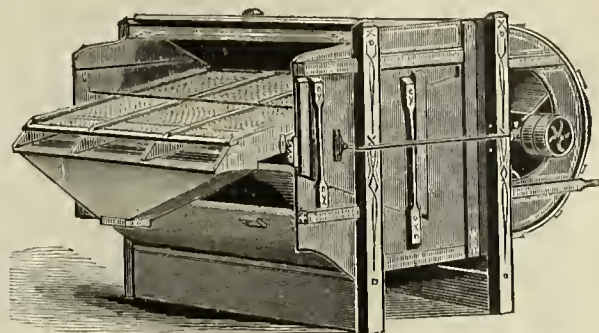
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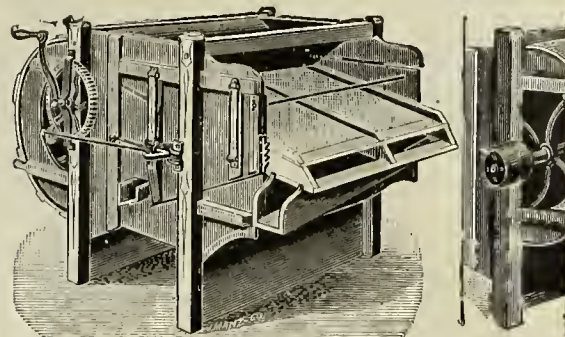
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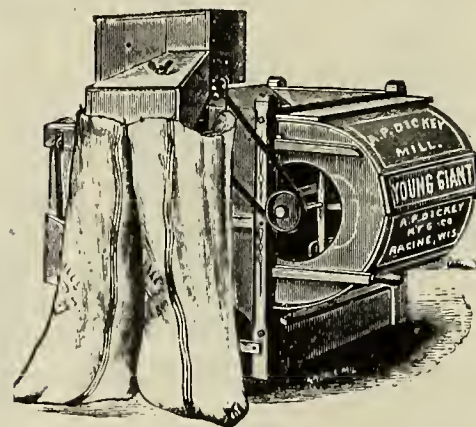
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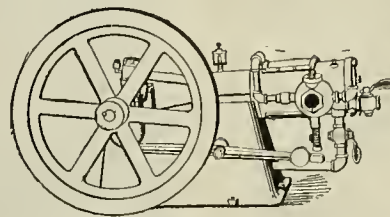
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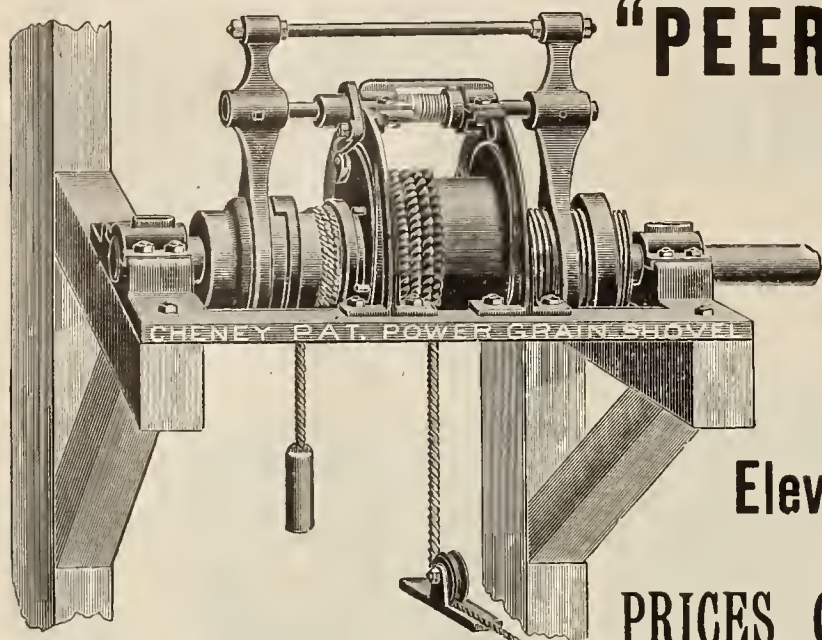
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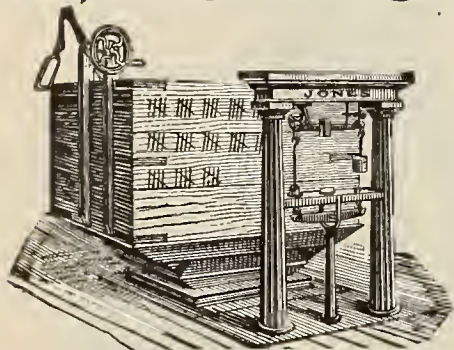
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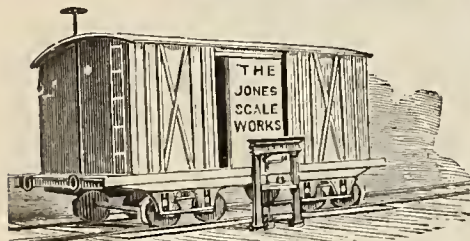
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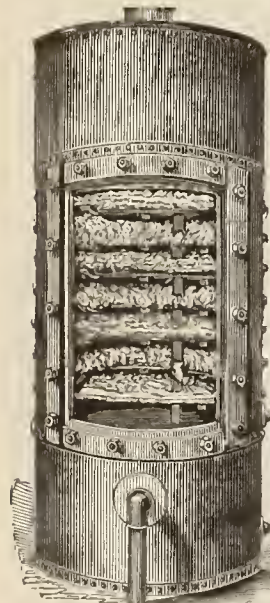
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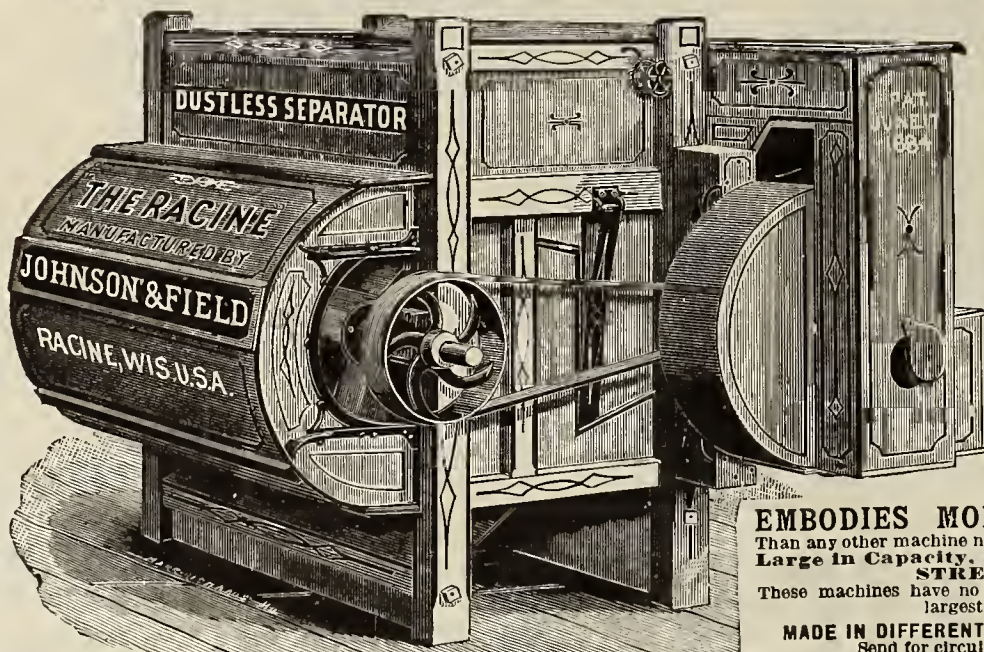
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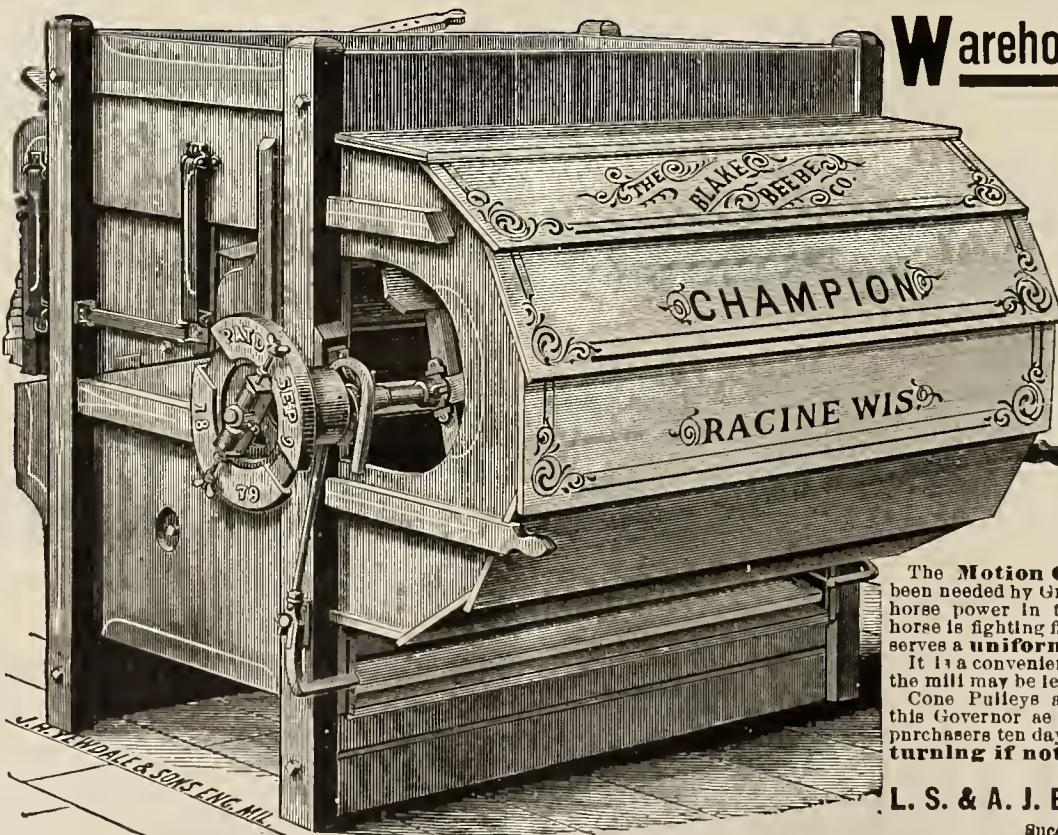


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THE BEST IN THE WORLD!!

IT HANDLES
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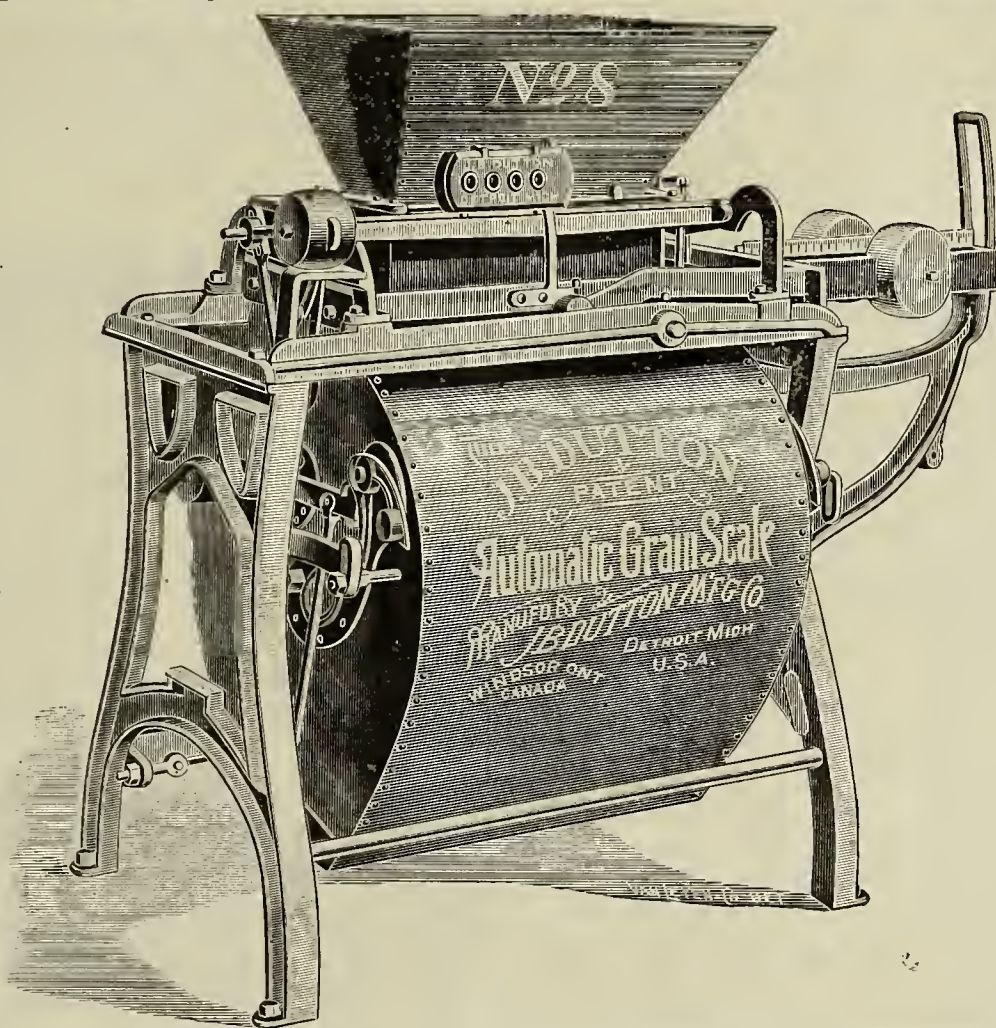
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THE GRAIN,

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THE FLOW

OF GRAIN

ON THE ROLLS.

THE WORK DONE

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Yours truly,
WILLIAM BLODGETT.

GRAND RAPIDS, MICH., Feb. 28, 1891.

J. B. DUTTON, Esq., Detroit, Mich.

DEAR SIR:—The Automatic Grain Scale that you sent us, more than meets our expectations as a scale. We are using it for the purpose of weighing beans from cars. We have weighed something like 40,000 bu. in the past three months, and have yet to find the time when it did not do its work correctly.

It being Automatic makes its own register, requires no attention whatever, and we cheerfully recommend it to the public as the scale for warehouses and elevators.

Very respectfully,
W. T. LAMOREAUX & CO.

DELAWARE, ILL., March 7, 1891.

MR. J. B. DUTTON, Detroit, Mich.

DEAR SIR:—We have been running one of your Automatic Grain Scales for the past 6 months and find they work and weigh grain correctly. We weigh the grain from the stock hopper to the rolls, thereby enabling us to know how much cleaned wheat it takes for a barrel of flour. We can recommend them to all millers.

Yours truly,
F. STARZ & SON.

SAGINAW, MICH., March 6, 1891.

J. B. DUTTON, Esq., Detroit, Mich.

DEAR SIR:—Replying to yours of the 4th will say that the Automatic Grain Scale we bought of you has been in almost constant use for over a year, and we find by frequent tests that they are very correct and reliable in ascertaining the amount of wheat ground each day.

Yours truly,
BRAND & HARDIN.

DULUTH, MINN., March 20, 1891.

J. B. DUTTON, Esq., Detroit, Mich.

DEAR SIR:—Replying to yours of the 18th, regarding your Automatic Scales, will say, that we have been using them in our mills and they have given perfect satisfaction.

We have made frequent thorough tests, and find that they are very accurate in weighing.

Respectfully yours,
GILL & WRIGHT.

ELDRIDGE MILLING CO.,
JACKSON, MICH., April 3, 1889.

J. B. DUTTON, Esq., Detroit, Mich.

DEAR SIR:—Replying to your favor of the 2d regarding your Automatic Scales which we are using on feed in our mills, am pleased to say that they are entirely satisfactory in every respect. We have tested them a great many times and find that they weigh very correctly. In matters of yields and percentages they are indispensable.

Wishing you every success with them, we are,
Yours truly,
ELDRIDGE MILLING CO.

WALLA WALLA, WASH., March 9, 1891.

J. B. DUTTON, Esq., Detroit, Mich.

DEAR SIR:—Replying to your favor of March 4, will say, the new Automatic Scale you sent us last fall has since been in constant use, and works to our entire satisfaction.

Yours truly,
H. P. ISAACS, Manager.

THE ISAAC HARTER CO.,
FOSTORIA, OHIO, June 19, 1889.

J. B. DUTTON, Esq., Detroit, Mich.

DEAR SIR:—The new register you sent us at the beginning of the year has been in constant use and works to our entire satisfaction.

As regards another testimonial, can only say that your Automatic Scale has been in operation in our mill for over a year, weighing all the feed we made during that time. Its correctness is no longer a question of doubt with us, having tested it both by grinding out all the wheat on hand, and by taking frequent drafts which, on Fairbanks or Howe Scales, show 100 pounds to each dump, the regular weight of each discharge from your No. 5 scale.

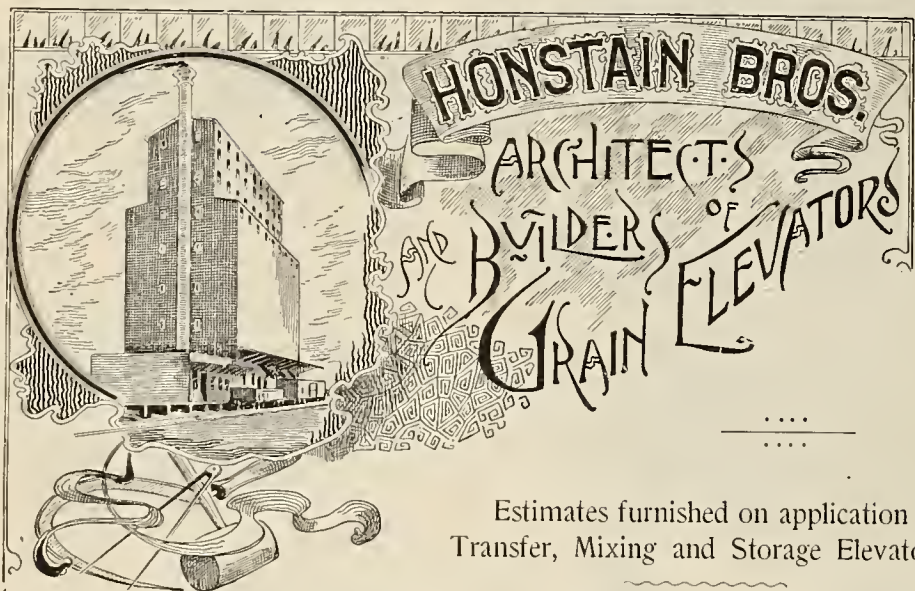
Yours truly,
THE ISAAC HARTER CO.,
A. MENNEL, Sec'y and Supt.

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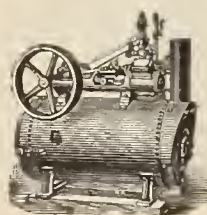
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298 grain elevators. We stand the grain bins down upon the ground and construct them of studs and
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same in Hopper scales. They are very popular with the railroads that are using them. They may
be seen in operation in Chicago in the Baltimore & Ohio and Nickel Plate railway yards.If you intend to build a grain elevator, write to us, stating the storage capacity required, and
probable amount of work to be done by the proposed elevator. If ground has been selected, send us
a pencil sketch, showing the railroad tracks and wagon approaches. Upon receipt of this drawing
we will prepare for you a sketch and estimate of the best house for the grounds and work to be done.
We have no stereotype plans, for the plans of an elevator differ, to suit the location and the work to
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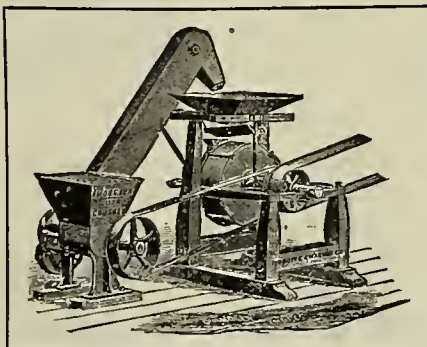
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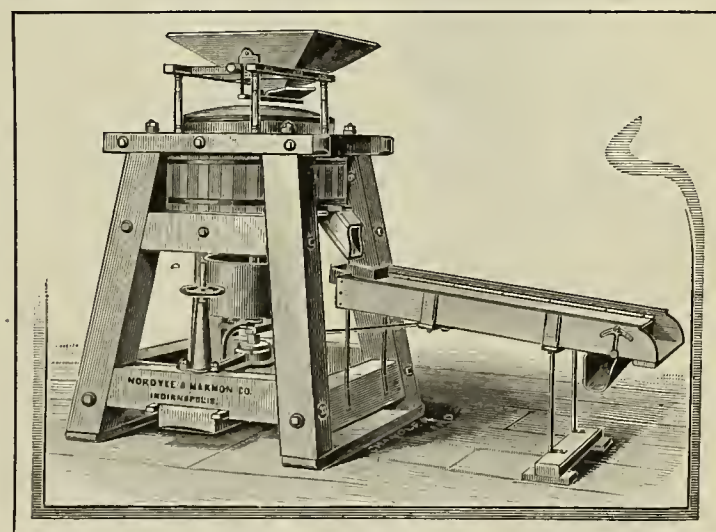
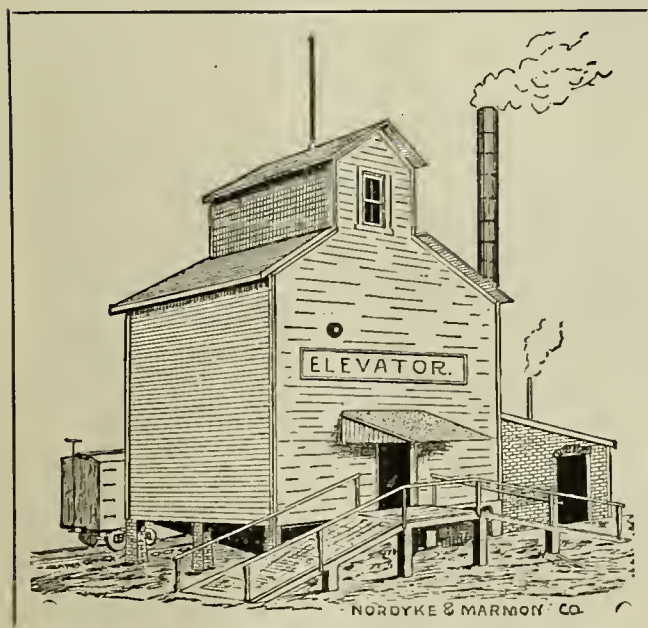
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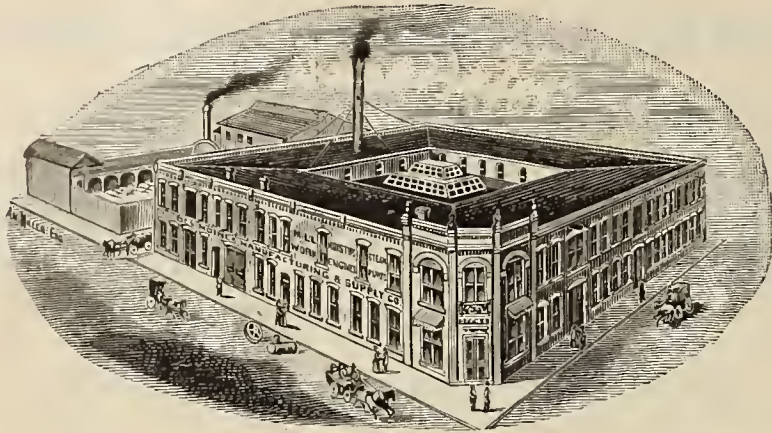
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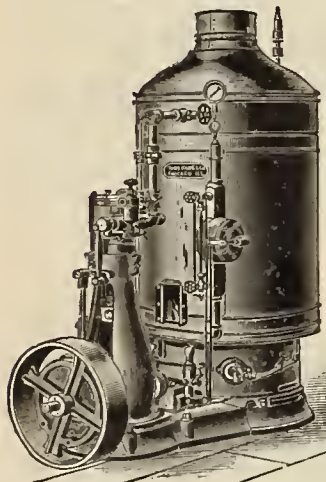
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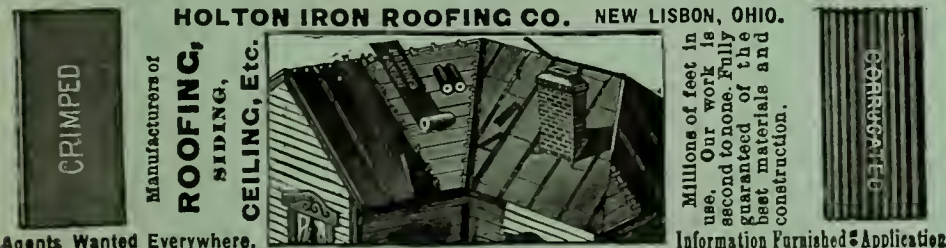
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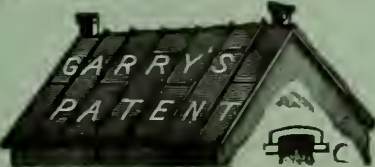
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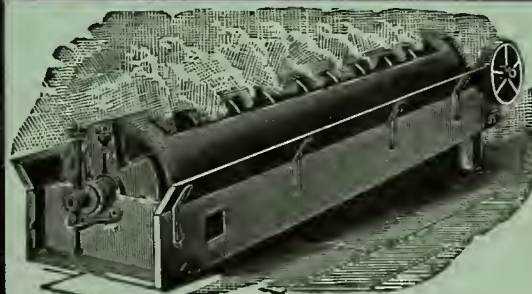
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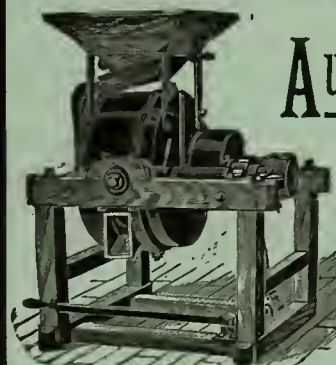
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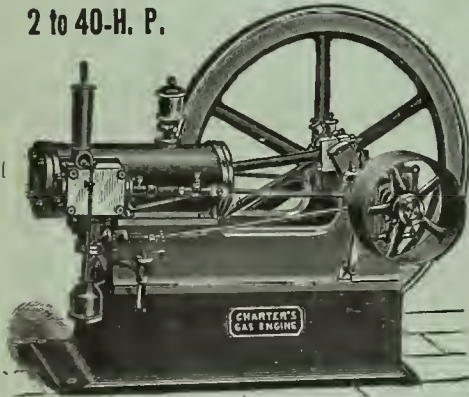
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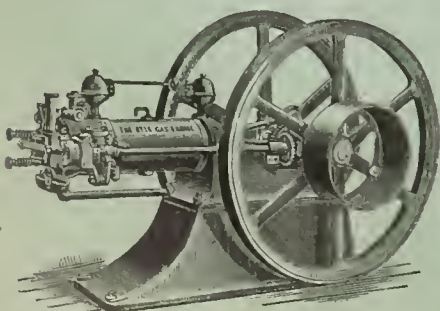
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